

UNCLASSIFIED

**Department of Defense
Fiscal Year (FY) 2012 Budget Estimates**

February 2011



Navy

Justification Book Volume 3

Research, Development, Test & Evaluation, Navy

Budget Activity 5

UNCLASSIFIED

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED

UNCLASSIFIED

Navy • President's Budget FY 2012 • RDT&E Program

Table of Volumes

| | |
|---|-----------------|
| Budget Activities 1, 2, and 3..... | Volume 1 |
| Budget Activity 4..... | Volume 2 |
| Budget Activity 5..... | Volume 3 |
| Budget Activity 6..... | Volume 4 |
| Budget Activity 7..... | Volume 5 |

UNCLASSIFIED

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED

UNCLASSIFIED

Navy • President's Budget FY 2012 • RDT&E Program

Volume 3 Table of Contents

Exhibit R-1..... Volume 3 - v
Program Element Table of Contents (by Budget Activity then Line Item Number).....Volume 3 - xv
Program Element Table of Contents (Alphabetically by Program Element Title).....Volume 3 - xix
Exhibit R-2's..... Volume 3 - 1

UNCLASSIFIED

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED

UNCLASSIFIED

Department of the Navy
 FY 2012 President's Budget
 Exhibit R-1 FY 2012 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

24 Jan 2011

| Summary Recap of Budget Activities | FY 2010 (Base & OCO) | FY 2011 Base Request with CR Adj | FY 2011 OCO Request with CR Adj | FY 2011 Total Request with CR Adj | FY 2011 Annual CR Base | FY 2011 Annual CR OCO | FY 2011 Annual CR Total |
|--|-------------------------|--|---------------------------------------|---|------------------------------|-----------------------------|-------------------------------|
| ----- | | | | | | | |
| System Development & Demonstration | 7,866,009 | 6,852,468 | 300 | 6,852,768 | 7,710,304 | 495 | 7,710,799 |
| Total Research, Development, Test & Eval, Navy | 7,866,009 | 6,852,468 | 300 | 6,852,768 | 7,710,304 | 495 | 7,710,799 |
| Summary Recap of FYDP Programs | | | | | | | |
| ----- | | | | | | | |
| General Purpose Forces | 529,181 | 549,241 | | 549,241 | 617,999 | | 617,999 |
| Intelligence and Communications | 19,735 | 19,752 | | 19,752 | 22,225 | | 22,225 |
| Research and Development | 7,317,093 | 6,283,475 | 300 | 6,283,775 | 7,070,080 | 495 | 7,070,575 |
| Total Research, Development, Test & Eval, Navy | 7,866,009 | 6,852,468 | 300 | 6,852,768 | 7,710,304 | 495 | 7,710,799 |

UNCLASSIFIED

Department of the Navy
 FY 2012 President's Budget
 Exhibit R-1 FY 2012 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

24 Jan 2011

| Summary Recap of Budget Activities ----- | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|-----------------|----------------|------------------|
| System Development & Demonstration | 6,475,528 | 11,050 | 6,486,578 |
| Total Research, Development, Test & Eval, Navy | 6,475,528 | 11,050 | 6,486,578 |
| Summary Recap of FYDP Programs ----- | | | |
| General Purpose Forces | 261,604 | | 261,604 |
| Intelligence and Communications | 32,719 | | 32,719 |
| Research and Development | 6,181,205 | 11,050 | 6,192,255 |
| Total Research, Development, Test & Eval, Navy | 6,475,528 | 11,050 | 6,486,578 |

UNCLASSIFIED

Department of the Navy
 FY 2012 President's Budget
 Exhibit R-1 FY 2012 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

24 Jan 2011

Appropriation: 1319N Research, Development, Test & Eval, Navy

| Line No | Program Element Number | Item | Act | FY 2010 (Base & OCO) | FY 2011 Base Request with CR Adj | FY 2011 OCO Request with CR Adj | FY 2011 Total Request with CR Adj | FY 2011 Annual CR Base | FY 2011 Annual CR OCO | FY 2011 Annual CR Total | S e c |
|---------|------------------------|---|-----|-------------------------|--|---------------------------------------|---|------------------------------|-----------------------------|-------------------------------|-------------|
| 83 | 0604212N | Other Helo Development | 05 | 56,409 | 44,329 | | 44,329 | 49,878 | | 49,878 | U |
| 84 | 0604214N | AV-8B Aircraft - Eng Dev | 05 | 24,134 | 22,867 | | 22,867 | 25,730 | | 25,730 | U |
| 85 | 0604215N | Standards Development | 05 | 62,081 | 45,667 | | 45,667 | 51,384 | | 51,384 | U |
| 86 | 0604216N | Multi-Mission Helicopter Upgrade Development | 05 | 134,436 | 55,792 | | 55,792 | 62,776 | | 62,776 | U |
| 87 | 0604218N | Air/Ocean Equipment Engineering | 05 | 7,780 | 5,735 | | 5,735 | 6,453 | | 6,453 | U |
| 88 | 0604221N | P-3 Modernization Program | 05 | 3,508 | 3,574 | | 3,574 | 4,021 | | 4,021 | U |
| 89 | 0604230N | Warfare Support System | 05 | 6,796 | 3,733 | | 3,733 | 4,200 | | 4,200 | U |
| 90 | 0604231N | Tactical Command System | 05 | 91,448 | 89,955 | | 89,955 | 101,216 | | 101,216 | U |
| 91 | 0604234N | Advanced Hawkeye | 05 | 346,194 | 171,132 | | 171,132 | 192,555 | | 192,555 | U |
| 92 | 0604245N | H-1 Upgrades | 05 | 31,332 | 60,498 | | 60,498 | 68,072 | | 68,072 | U |
| 93 | 0604261N | Acoustic Search Sensors | 05 | 53,913 | 64,834 | | 64,834 | 72,950 | | 72,950 | U |
| 94 | 0604262N | V-22A | 05 | 78,866 | 46,070 | | 46,070 | 51,837 | | 51,837 | U |
| 95 | 0604264N | Air Crew Systems Development | 05 | 12,154 | 8,689 | | 8,689 | 9,777 | | 9,777 | U |
| 96 | 0604269N | EA-18 | 05 | 55,532 | 22,042 | | 22,042 | 24,801 | | 24,801 | U |
| 97 | 0604270N | Electronic Warfare Development | 05 | 107,394 | 80,819 | | 80,819 | 90,936 | | 90,936 | U |
| 98 | 0604273N | VH-71A Executive Helo Development | 05 | 31,905 | 159,785 | | 159,785 | 179,788 | | 179,788 | U |
| 99 | 0604274N | Next Generation Jammer (NGJ) | 05 | 111,777 | 120,602 | | 120,602 | 135,700 | | 135,700 | U |
| 100 | 0604280N | Joint Tactical Radio System - Navy (JTRS-Navy) | 05 | 858,831 | 687,723 | | 687,723 | 773,817 | | 773,817 | U |
| 101 | 0604307N | Surface Combatant Combat System Engineering | 05 | 177,109 | 193,933 | | 193,933 | 218,211 | | 218,211 | U |
| 102 | 0604311N | LPD-17 Class Systems Integration | 05 | 5,085 | 1,373 | | 1,373 | 1,545 | | 1,545 | U |

R-1P: FY 2012 President's Budget (With FY 2011 CR Adjustments), as of January 24, 2011 at 11:20:00

UNCLASSIFIED

Volume 3 - vii

UNCLASSIFIED

Department of the Navy
 FY 2012 President's Budget
 Exhibit R-1 FY 2012 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

24 Jan 2011

Appropriation: 1319N Research, Development, Test & Eval, Navy

| Line No | Program Element Number | Item | Act | FY 2012 Base | FY 2012 OCO | FY 2012 Total | Se |
|---------|------------------------|--|-----|--------------|-------------|---------------|----|
| 83 | 0604212N | Other Helo Development | 05 | 35,651 | | 35,651 | U |
| 84 | 0604214N | AV-8B Aircraft - Eng Dev | 05 | 30,676 | | 30,676 | U |
| 85 | 0604215N | Standards Development | 05 | 51,191 | | 51,191 | U |
| 86 | 0604216N | Multi-Mission Helicopter Upgrade Development | 05 | 17,673 | | 17,673 | U |
| 87 | 0604218N | Air/Ocean Equipment Engineering | 05 | 5,922 | | 5,922 | U |
| 88 | 0604221N | P-3 Modernization Program | 05 | 3,417 | | 3,417 | U |
| 89 | 0604230N | Warfare Support System | 05 | 9,944 | | 9,944 | U |
| 90 | 0604231N | Tactical Command System | 05 | 81,257 | | 81,257 | U |
| 91 | 0604234N | Advanced Hawkeye | 05 | 110,994 | | 110,994 | U |
| 92 | 0604245N | H-1 Upgrades | 05 | 72,569 | | 72,569 | U |
| 93 | 0604261N | Acoustic Search Sensors | 05 | 56,509 | | 56,509 | U |
| 94 | 0604262N | V-22A | 05 | 84,477 | | 84,477 | U |
| 95 | 0604264N | Air Crew Systems Development | 05 | 3,249 | | 3,249 | U |
| 96 | 0604269N | EA-18 | 05 | 17,100 | | 17,100 | U |
| 97 | 0604270N | Electronic Warfare Development | 05 | 89,418 | 5,600 | 95,018 | U |
| 98 | 0604273N | VH-71A Executive Helo Development | 05 | 180,070 | | 180,070 | U |
| 99 | 0604274N | Next Generation Jammer (NGJ) | 05 | 189,919 | | 189,919 | U |
| 100 | 0604280N | Joint Tactical Radio System - Navy (JTRS-Navy) | 05 | 688,146 | | 688,146 | U |
| 101 | 0604307N | Surface Combatant Combat System Engineering | 05 | 223,283 | | 223,283 | U |
| 102 | 0604311N | LPD-17 Class Systems Integration | 05 | 884 | | 884 | U |

R-1P: FY 2012 President's Budget (With FY 2011 CR Adjustments), as of January 24, 2011 at 11:20:00

UNCLASSIFIED

Volume 3 - viii

UNCLASSIFIED

Department of the Navy
 FY 2012 President's Budget
 Exhibit R-1 FY 2012 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

24 Jan 2011

Appropriation: 1319N Research, Development, Test & Eval, Navy

| Line No | Program Element Number | Item | Act | FY 2010 (Base & OCO) | FY 2011 Base Request with CR Adj | FY 2011 OCO Request with CR Adj | FY 2011 Total Request with CR Adj | FY 2011 Annual CR Base | FY 2011 Annual CR OCO | FY 2011 Annual CR Total | Se c |
|---------|------------------------|---|-----|----------------------|----------------------------------|---------------------------------|-----------------------------------|------------------------|-----------------------|-------------------------|------|
| 103 | 0604329N | Small Diameter Bomb (SDB) | 05 | 17,494 | 44,091 | | 44,091 | 49,611 | | 49,611 | U |
| 104 | 0604366N | Standard Missile Improvements | 05 | 150,076 | 96,186 | | 96,186 | 108,227 | | 108,227 | U |
| 105 | 0604373N | Airborne MCM | 05 | 43,769 | 45,885 | | 45,885 | 51,629 | | 51,629 | U |
| 106 | 0604378N | Naval Integrated Fire Control - Counter Air Systems Engineering | 05 | 10,574 | 21,517 | | 21,517 | 24,211 | | 24,211 | U |
| 107 | 0604404N | Future Unmanned Carrier-based Strike System | 05 | | | | | | | | U |
| 108 | 0604501N | Advanced Above Water Sensors | 05 | 246,258 | 274,371 | | 274,371 | 308,719 | | 308,719 | U |
| 109 | 0604503N | SSN-688 and Trident Modernization | 05 | 119,629 | 118,897 | | 118,897 | 133,781 | | 133,781 | U |
| 110 | 0604504N | Air Control | 05 | 6,373 | 5,665 | | 5,665 | 6,374 | | 6,374 | U |
| 111 | 0604512N | Shipboard Aviation Systems | 05 | 76,148 | 70,117 | | 70,117 | 78,895 | | 78,895 | U |
| 112 | 0604518N | Combat Information Center Conversion | 05 | 12,757 | 5,044 | | 5,044 | 5,675 | | 5,675 | U |
| 113 | 0604558N | New Design SSN | 05 | 177,030 | 155,489 | | 155,489 | 174,954 | | 174,954 | U |
| 114 | 0604562N | Submarine Tactical Warfare System | 05 | 69,723 | 50,537 | | 50,537 | 56,864 | | 56,864 | U |
| 115 | 0604567N | Ship Contract Design/ Live Fire T&E | 05 | 91,771 | 153,686 | | 153,686 | 172,925 | | 172,925 | U |
| 116 | 0604574N | Navy Tactical Computer Resources | 05 | 4,441 | 4,443 | | 4,443 | 4,999 | | 4,999 | U |
| 117 | 0604601N | Mine Development | 05 | 2,131 | 5,455 | | 5,455 | 6,138 | | 6,138 | U |
| 118 | 0604610N | Lightweight Torpedo Development | 05 | 18,962 | 25,282 | | 25,282 | 28,447 | | 28,447 | U |
| 119 | 0604654N | Joint Service Explosive Ordnance Development | 05 | 9,729 | 10,489 | | 10,489 | 11,802 | | 11,802 | U |
| 120 | 0604703N | Personnel, Training, Simulation, and Human Factors | 05 | 6,424 | 10,759 | | 10,759 | 12,106 | | 12,106 | U |
| 121 | 0604727N | Joint Standoff Weapon Systems | 05 | 9,673 | 12,567 | | 12,567 | 14,140 | | 14,140 | U |

R-1P: FY 2012 President's Budget (With FY 2011 CR Adjustments), as of January 24, 2011 at 11:20:00

UNCLASSIFIED

Department of the Navy
 FY 2012 President's Budget
 Exhibit R-1 FY 2012 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

24 Jan 2011

Appropriation: 1319N Research, Development, Test & Eval, Navy

| Line No | Program Element Number | Item | Act | FY 2012 Base | FY 2012 OCO | FY 2012 Total | Se |
|---------|------------------------|---|-----|--------------|-------------|---------------|----|
| 103 | 0604329N | Small Diameter Bomb (SDB) | 05 | 47,635 | | 47,635 | U |
| 104 | 0604366N | Standard Missile Improvements | 05 | 46,705 | | 46,705 | U |
| 105 | 0604373N | Airborne MCM | 05 | 41,142 | | 41,142 | U |
| 106 | 0604378N | Naval Integrated Fire Control - Counter Air Systems Engineering | 05 | 24,898 | | 24,898 | U |
| 107 | 0604404N | Future Unmanned Carrier-based Strike System | 05 | 121,150 | | 121,150 | U |
| 108 | 0604501N | Advanced Above Water Sensors | 05 | 227,358 | | 227,358 | U |
| 109 | 0604503N | SSN-688 and Trident Modernization | 05 | 100,591 | | 100,591 | U |
| 110 | 0604504N | Air Control | 05 | 5,521 | | 5,521 | U |
| 111 | 0604512N | Shipboard Aviation Systems | 05 | 45,445 | | 45,445 | U |
| 112 | 0604518N | Combat Information Center Conversion | 05 | 3,400 | | 3,400 | U |
| 113 | 0604558N | New Design SSN | 05 | 97,235 | | 97,235 | U |
| 114 | 0604562N | Submarine Tactical Warfare System | 05 | 48,466 | | 48,466 | U |
| 115 | 0604567N | Ship Contract Design/ Live Fire T&E | 05 | 161,099 | | 161,099 | U |
| 116 | 0604574N | Navy Tactical Computer Resources | 05 | 3,848 | | 3,848 | U |
| 117 | 0604601N | Mine Development | 05 | 3,933 | | 3,933 | U |
| 118 | 0604610N | Lightweight Torpedo Development | 05 | 32,592 | | 32,592 | U |
| 119 | 0604654N | Joint Service Explosive Ordnance Development | 05 | 9,960 | 3,500 | 13,460 | U |
| 120 | 0604703N | Personnel, Training, Simulation, and Human Factors | 05 | 12,992 | | 12,992 | U |
| 121 | 0604727N | Joint Standoff Weapon Systems | 05 | 7,506 | | 7,506 | U |

R-1P: FY 2012 President's Budget (With FY 2011 CR Adjustments), as of January 24, 2011 at 11:20:00

UNCLASSIFIED

Volume 3 - x

UNCLASSIFIED

Department of the Navy
 FY 2012 President's Budget
 Exhibit R-1 FY 2012 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

24 Jan 2011

Appropriation: 1319N Research, Development, Test & Eval, Navy

| Line No | Program Element Number | Item | Act | FY 2010 (Base & OCO) | FY 2011 Base Request with CR Adj | FY 2011 OCO Request with CR Adj | FY 2011 Total Request with CR Adj | FY 2011 Annual CR Base | FY 2011 Annual CR OCO | FY 2011 Annual CR Total | Se c |
|---------|------------------------|---|-----|----------------------|----------------------------------|---------------------------------|-----------------------------------|------------------------|-----------------------|-------------------------|------|
| 122 | 0604755N | Ship Self Defense (Detect & Control) | 05 | 45,307 | 45,930 | | 45,930 | 51,680 | | 51,680 | U |
| 123 | 0604756N | Ship Self Defense (Engage: Hard Kill) | 05 | 50,778 | 5,860 | | 5,860 | 6,594 | | 6,594 | U |
| 124 | 0604757N | Ship Self Defense (Engage: Soft Kill/EW) | 05 | 75,600 | 84,525 | | 84,525 | 95,106 | | 95,106 | U |
| 125 | 0604761N | Intelligence Engineering | 05 | 15,258 | 6,820 | | 6,820 | 7,674 | | 7,674 | U |
| 126 | 0604771N | Medical Development | 05 | 54,932 | 12,337 | 300 | 12,637 | 13,881 | 495 | 14,376 | U |
| 127 | 0604777N | Navigation/ID System | 05 | 60,516 | 66,636 | | 66,636 | 74,978 | | 74,978 | U |
| 128 | 0604800M | Joint Strike Fighter (JSF) - EMD | 05 | | 667,916 | | 667,916 | 751,530 | | 751,530 | U |
| 129 | 0604800N | Joint Strike Fighter (JSF) | 05 | 1,886,175 | 707,791 | | 707,791 | 796,397 | | 796,397 | U |
| 130 | 0605013M | Information Technology Development | 05 | 9,978 | 22,783 | | 22,783 | 25,635 | | 25,635 | U |
| 131 | 0605013N | Information Technology Development | 05 | 83,264 | 28,280 | | 28,280 | 31,820 | | 31,820 | U |
| 132 | 0605018N | Navy Integrated Military Human Resources System (N-IMHRS) | 05 | | 27,444 | | 27,444 | 30,880 | | 30,880 | U |
| 133 | 0605212N | CH-53K RDTE | 05 | 503,927 | 577,435 | | 577,435 | 649,722 | | 649,722 | U |
| 134 | 0605430N | C/KC-130 Avionics Modernization Program (AMP) | 05 | 1,268 | | | | | | | U |
| 135 | 0605450N | Joint Air-to-Ground Missile (JAGM) | 05 | 61,762 | 100,846 | | 100,846 | 113,471 | | 113,471 | U |
| 136 | 0605500N | Multi-mission Maritime Aircraft (MMA) | 05 | 1,138,682 | 929,240 | | 929,240 | 1,045,568 | | 1,045,568 | U |
| 137 | 0204201N | CG(X) | 05 | 21,439 | | | | | | | U |
| 138 | 0204202N | DDG-1000 | 05 | 507,742 | 549,241 | | 549,241 | 617,999 | | 617,999 | U |
| 139 | 0304231N | Tactical Command System - MIP | 05 | | 1,318 | | 1,318 | 1,483 | | 1,483 | U |

R-1P: FY 2012 President's Budget (With FY 2011 CR Adjustments), as of January 24, 2011 at 11:20:00

UNCLASSIFIED

Department of the Navy
 FY 2012 President's Budget
 Exhibit R-1 FY 2012 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

24 Jan 2011

Appropriation: 1319N Research, Development, Test & Eval, Navy

| Line No | Program Element Number | Item | Act | FY 2012 Base | FY 2012 OCO | FY 2012 Total | Se |
|---------|------------------------|---|-----|--------------|-------------|---------------|----|
| 122 | 0604755N | Ship Self Defense (Detect & Control) | 05 | 71,222 | | 71,222 | U |
| 123 | 0604756N | Ship Self Defense (Engage: Hard Kill) | 05 | 6,631 | | 6,631 | U |
| 124 | 0604757N | Ship Self Defense (Engage: Soft Kill/EW) | 05 | 184,095 | | 184,095 | U |
| 125 | 0604761N | Intelligence Engineering | 05 | 2,217 | | 2,217 | U |
| 126 | 0604771N | Medical Development | 05 | 12,984 | 1,950 | 14,934 | U |
| 127 | 0604777N | Navigation/ID System | 05 | 50,178 | | 50,178 | U |
| 128 | 0604800M | Joint Strike Fighter (JSF) - EMD | 05 | 670,723 | | 670,723 | U |
| 129 | 0604800N | Joint Strike Fighter (JSF) | 05 | 677,486 | | 677,486 | U |
| 130 | 0605013M | Information Technology Development | 05 | 27,461 | | 27,461 | U |
| 131 | 0605013N | Information Technology Development | 05 | 58,764 | | 58,764 | U |
| 132 | 0605018N | Navy Integrated Military Human Resources System (N-IMHRS) | 05 | 55,050 | | 55,050 | U |
| 133 | 0605212N | CH-53K RDTE | 05 | 629,461 | | 629,461 | U |
| 134 | 0605430N | C/KC-130 Avionics Modernization Program (AMP) | 05 | | | | U |
| 135 | 0605450N | Joint Air-to-Ground Missile (JAGM) | 05 | 118,395 | | 118,395 | U |
| 136 | 0605500N | Multi-mission Maritime Aircraft (MMA) | 05 | 622,713 | | 622,713 | U |
| 137 | 0204201N | CG(X) | 05 | | | | U |
| 138 | 0204202N | DDG-1000 | 05 | 261,604 | | 261,604 | U |
| 139 | 0304231N | Tactical Command System - MIP | 05 | 979 | | 979 | U |

R-1P: FY 2012 President's Budget (With FY 2011 CR Adjustments), as of January 24, 2011 at 11:20:00

UNCLASSIFIED

UNCLASSIFIED

Department of the Navy
 FY 2012 President's Budget
 Exhibit R-1 FY 2012 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

24 Jan 2011

Appropriation: 1319N Research, Development, Test & Eval, Navy

| Line No | Program Element Number | Item | Act | FY 2010 (Base & OCO) | FY 2011 Base Request with CR Adj | FY 2011 OCO Request with CR Adj | FY 2011 Total Request with CR Adj | FY 2011 Annual CR Base | FY 2011 Annual CR OCO | FY 2011 Annual CR Total | S e c |
|--|------------------------|---|-----|-------------------------|--|---------------------------------------|---|------------------------------|-----------------------------|-------------------------------|-------------|
| 140 | 0304503N | SSN-688 and Trident Modernization - MIP | 05 | | 1,415 | | 1,415 | 1,592 | | 1,592 | U |
| 141 | 0304785N | Tactical Cryptologic Systems | 05 | 19,735 | 17,019 | | 17,019 | 19,150 | | 19,150 | U |
| | | System Development & Demonstration | | 7,866,009 | 6,852,468 | 300 | 6,852,768 | 7,710,304 | 495 | 7,710,799 | |
| Total Research, Development, Test & Eval, Navy | | | | 7,866,009 | 6,852,468 | 300 | 6,852,768 | 7,710,304 | 495 | 7,710,799 | |

UNCLASSIFIED

Department of the Navy
 FY 2012 President's Budget
 Exhibit R-1 FY 2012 President's Budget
 Total Obligational Authority
 (Dollars in Thousands)

24 Jan 2011

Appropriation: 1319N Research, Development, Test & Eval, Navy

| Line No | Element Number | Program Item | Act | FY 2012 Base | FY 2012 OCO | FY 2012 Total | Se |
|--|----------------|---|-----|--------------|-------------|---------------|----|
| 140 | 0304503N | SSN-688 and Trident Modernization - MIP | 05 | | | | U |
| 141 | 0304785N | Tactical Cryptologic Systems | 05 | 31,740 | | 31,740 | U |
| | | System Development & Demonstration | | 6,475,528 | 11,050 | 6,486,578 | |
| Total Research, Development, Test & Eval, Navy | | | | 6,475,528 | 11,050 | 6,486,578 | |

UNCLASSIFIED

Navy • President's Budget FY 2012 • RDT&E Program

Program Element Table of Contents (by Budget Activity then Line Item Number)

*Budget Activity 05: Development & Demonstration (SDD)
Appropriation 1319: Research, Development, Test & Evaluation, Navy*

.....

| Line Item | Budget Activity | Program Element Number | Program Element Title | Page |
|------------------|------------------------|-------------------------------|--|----------------|
| 83 | 05 | 0604212N | Other Helicopter Development..... | Volume 3 - 1 |
| 84 | 05 | 0604214N | AV-8B Aircraft - Engine Dev..... | Volume 3 - 27 |
| 85 | 05 | 0604215N | Standards Development..... | Volume 3 - 43 |
| 86 | 05 | 0604216N | Multi-Mssn Helicopter Upgrade Dev..... | Volume 3 - 95 |
| 87 | 05 | 0604218N | Air/Ocean Equipment Engineering..... | Volume 3 - 105 |
| 88 | 05 | 0604221N | P-3 Modernization Program..... | Volume 3 - 123 |
| 89 | 05 | 0604230N | Warfare Support System..... | Volume 3 - 137 |
| 90 | 05 | 0604231N | Tactical Command System..... | Volume 3 - 159 |
| 91 | 05 | 0604234N | Advanced Hawkeye..... | Volume 3 - 245 |
| 92 | 05 | 0604245N | H-1 Upgrades..... | Volume 3 - 263 |
| 93 | 05 | 0604261N | Acoustic Search Sensors..... | Volume 3 - 275 |
| 94 | 05 | 0604262N | V-22A..... | Volume 3 - 297 |
| 95 | 05 | 0604264N | Air Crew Systems Development..... | Volume 3 - 307 |
| 96 | 05 | 0604269N | EA-18 Squadrons..... | Volume 3 - 327 |
| 97 | 05 | 0604270N | Electronic Warfare (EW) Dev..... | Volume 3 - 337 |

UNCLASSIFIED

UNCLASSIFIED

Navy • President's Budget FY 2012 • RDT&E Program

Budget Activity 05: Development & Demonstration (SDD)
Appropriation 1319: Research, Development, Test & Evaluation, Navy

.....

| Line Item | Budget Activity | Program Element Number | Program Element Title | Page |
|------------------|------------------------|-------------------------------|--|----------------|
| 98 | 05 | 0604273N | VH-71 Executive Helo Development..... | Volume 3 - 379 |
| 99 | 05 | 0604274N | Next Generation Jammer (NGJ)..... | Volume 3 - 395 |
| 100 | 05 | 0604280N | JT Tact Radio Sys (JTRS)..... | Volume 3 - 403 |
| 101 | 05 | 0604307N | Surface Combatant Cmbt Sys Eng..... | Volume 3 - 453 |
| 102 | 05 | 0604311N | LPD-17 Class Systems Integration..... | Volume 3 - 469 |
| 103 | 05 | 0604329N | Small Diameter Bomb (SDB)..... | Volume 3 - 477 |
| 104 | 05 | 0604366N | Standard Missile Improvements..... | Volume 3 - 497 |
| 105 | 05 | 0604373N | Airborne Mine Countermeasures (AMCM)..... | Volume 3 - 515 |
| 106 | 05 | 0604378N | Nav Integrated Fire Control-Counter Air Sys Eng..... | Volume 3 - 563 |
| 107 | 05 | 0604404N | Future Unmanned Carrier-based Strike System..... | Volume 3 - 573 |
| 108 | 05 | 0604501N | Advanced Above Water Sensors..... | Volume 3 - 581 |
| 109 | 05 | 0604503N | SSN-688 & Trident Modernization..... | Volume 3 - 617 |
| 110 | 05 | 0604504N | Air Control..... | Volume 3 - 663 |
| 111 | 05 | 0604512N | Shipboard Aviation Systems..... | Volume 3 - 677 |
| 112 | 05 | 0604518N | Combat Information Center Conv..... | Volume 3 - 705 |
| 113 | 05 | 0604558N | New Design SSN..... | Volume 3 - 715 |
| 114 | 05 | 0604562N | Submarine Tactical Warfare System..... | Volume 3 - 743 |
| 115 | 05 | 0604567N | Ship Contract Design/ Live Fire T&E..... | Volume 3 - 757 |

UNCLASSIFIED

UNCLASSIFIED

Navy • President's Budget FY 2012 • RDT&E Program

Budget Activity 05: Development & Demonstration (SDD)
Appropriation 1319: Research, Development, Test & Evaluation, Navy

.....

| Line Item | Budget Activity | Program Element Number | Program Element Title | Page |
|------------------|------------------------|-------------------------------|--|-----------------|
| 116 | 05 | 0604574N | Navy Tactical Computer Resources..... | Volume 3 - 803 |
| 117 | 05 | 0604601N | Mine Development..... | Volume 3 - 811 |
| 118 | 05 | 0604610N | Lightweight Torpedo Development..... | Volume 3 - 821 |
| 119 | 05 | 0604654N | JT Service EOD..... | Volume 3 - 831 |
| 120 | 05 | 0604703N | Personnel, Trng, Sim, & Human Factors..... | Volume 3 - 837 |
| 121 | 05 | 0604727N | Joint Standoff Weapon Systems..... | Volume 3 - 847 |
| 122 | 05 | 0604755N | Ship Self Def (Detect & Cntrl)..... | Volume 3 - 859 |
| 123 | 05 | 0604756N | Ship Self Def (Engage: Hard Kill)..... | Volume 3 - 897 |
| 124 | 05 | 0604757N | Ship Self Def (Engage: Soft Kill/EW)..... | Volume 3 - 915 |
| 125 | 05 | 0604761N | Intelligence Engineering..... | Volume 3 - 955 |
| 126 | 05 | 0604771N | Medical Development..... | Volume 3 - 963 |
| 127 | 05 | 0604777N | Navigation/Id System..... | Volume 3 - 979 |
| 128 | 05 | 0604800M | (U)Joint Strike Fighter (JSF) - EMD..... | Volume 3 - 1021 |
| 129 | 05 | 0604800N | JT Strike Fighter (JSF) - EMD..... | Volume 3 - 1043 |
| 130 | 05 | 0605013M | Marine Corps IT Dev/Mod..... | Volume 3 - 1071 |
| 131 | 05 | 0605013N | Information Technology Development..... | Volume 3 - 1085 |
| 132 | 05 | 0605018N | (U)Navy Integrated Mil Human Res Sys(N-IMHRS)..... | Volume 3 - 1171 |
| 133 | 05 | 0605212N | CH-53K..... | Volume 3 - 1179 |

UNCLASSIFIED

UNCLASSIFIED

Navy • President's Budget FY 2012 • RDT&E Program

Budget Activity 05: Development & Demonstration (SDD)
Appropriation 1319: Research, Development, Test & Evaluation, Navy

.....

| Line Item | Budget Activity | Program Element Number | Program Element Title | Page |
|------------------|------------------------|-------------------------------|--|-----------------|
| 134 | 05 | 0605430N | C/KC-130 Avionics Modernization Program (AMP)..... | Volume 3 - 1191 |
| 135 | 05 | 0605450N | Joint Air-to-ground Missile (JAGM)..... | Volume 3 - 1195 |
| 136 | 05 | 0605500N | Multi-mssn Maritime Aircraft (MMA) (P-8A)..... | Volume 3 - 1205 |
| 137 | 05 | 0204201N | CG(X)..... | Volume 3 - 1229 |
| 138 | 05 | 0204202N | DDG-1000..... | Volume 3 - 1233 |
| 139 | 05 | 0304231N | Tactical Command System - MIP..... | Volume 3 - 1251 |
| 140 | 05 | 0304503N | SSN-688 and Trident Modernization-MIP..... | Volume 3 - 1259 |
| 141 | 05 | 0304785N | Tactical Cryptologic Systems..... | Volume 3 - 1267 |

UNCLASSIFIED

Navy • President's Budget FY 2012 • RDT&E Program

Program Element Table of Contents (Alphabetically by Program Element Title)

| Program Element Title | Program Element Number | Line Item | Budget Activity | Page |
|---|-------------------------------|------------------|------------------------|-------------|
| (U)Joint Strike Fighter (JSF) - EMD | 0604800M | 128 | 05.....Volume 3 - 1021 | |
| (U)Navy Integrated Mil Human Res Sys(N-IMHRS) | 0605018N | 132 | 05.....Volume 3 - 1171 | |
| AV-8B Aircraft - Engine Dev | 0604214N | 84 | 05.....Volume 3 - 27 | |
| Acoustic Search Sensors | 0604261N | 93 | 05.....Volume 3 - 275 | |
| Advanced Above Water Sensors | 0604501N | 108 | 05.....Volume 3 - 581 | |
| Advanced Hawkeye | 0604234N | 91 | 05.....Volume 3 - 245 | |
| Air Control | 0604504N | 110 | 05.....Volume 3 - 663 | |
| Air Crew Systems Development | 0604264N | 95 | 05.....Volume 3 - 307 | |
| Air/Ocean Equipment Engineering | 0604218N | 87 | 05.....Volume 3 - 105 | |
| Airborne Mine Countermeasures (AMCM) | 0604373N | 105 | 05.....Volume 3 - 515 | |
| C/KC-130 Avionics Modernization Program (AMP) | 0605430N | 134 | 05.....Volume 3 - 1191 | |
| CG(X) | 0204201N | 137 | 05.....Volume 3 - 1229 | |
| CH-53K | 0605212N | 133 | 05.....Volume 3 - 1179 | |
| Combat Information Center Conv | 0604518N | 112 | 05.....Volume 3 - 705 | |
| DDG-1000 | 0204202N | 138 | 05.....Volume 3 - 1233 | |
| EA-18 Squadrons | 0604269N | 96 | 05.....Volume 3 - 327 | |
| Electronic Warfare (EW) Dev | 0604270N | 97 | 05.....Volume 3 - 337 | |

UNCLASSIFIED

UNCLASSIFIED

Navy • President's Budget FY 2012 • RDT&E Program

| Program Element Title | Program Element Number | Line Item | Budget Activity | Page |
|---|-------------------------------|------------------|------------------------|-----------------|
| Future Unmanned Carrier-based Strike System | 0604404N | 107 | 05..... | Volume 3 - 573 |
| H-1 Upgrades | 0604245N | 92 | 05..... | Volume 3 - 263 |
| Information Technology Development | 0605013N | 131 | 05..... | Volume 3 - 1085 |
| Intelligence Engineering | 0604761N | 125 | 05..... | Volume 3 - 955 |
| JT Service EOD | 0604654N | 119 | 05..... | Volume 3 - 831 |
| JT Strike Fighter (JSF) - EMD | 0604800N | 129 | 05..... | Volume 3 - 1043 |
| JT Tact Radio Sys (JTRS) | 0604280N | 100 | 05..... | Volume 3 - 403 |
| Joint Air-to-ground Missile (JAGM) | 0605450N | 135 | 05..... | Volume 3 - 1195 |
| Joint Standoff Weapon Systems | 0604727N | 121 | 05..... | Volume 3 - 847 |
| LPD-17 Class Systems Integration | 0604311N | 102 | 05..... | Volume 3 - 469 |
| Lightweight Torpedo Development | 0604610N | 118 | 05..... | Volume 3 - 821 |
| Marine Corps IT Dev/Mod | 0605013M | 130 | 05..... | Volume 3 - 1071 |
| Medical Development | 0604771N | 126 | 05..... | Volume 3 - 963 |
| Mine Development | 0604601N | 117 | 05..... | Volume 3 - 811 |
| Multi-Mssn Helicopter Upgrade Dev | 0604216N | 86 | 05..... | Volume 3 - 95 |
| Multi-mssn Maritime Aircraft (MMA) (P-8A) | 0605500N | 136 | 05..... | Volume 3 - 1205 |
| Nav Integrated Fire Control-Counter Air Sys Eng | 0604378N | 106 | 05..... | Volume 3 - 563 |
| Navigation/Id System | 0604777N | 127 | 05..... | Volume 3 - 979 |
| Navy Tactical Computer Resources | 0604574N | 116 | 05..... | Volume 3 - 803 |
| New Design SSN | 0604558N | 113 | 05..... | Volume 3 - 715 |

UNCLASSIFIED

UNCLASSIFIED

Navy • President's Budget FY 2012 • RDT&E Program

| Program Element Title | Program Element Number | Line Item | Budget Activity | Page |
|---------------------------------------|-------------------------------|------------------|------------------------|-----------------|
| Next Generation Jammer (NGJ) | 0604274N | 99 | 05..... | Volume 3 - 395 |
| Other Helicopter Development | 0604212N | 83 | 05..... | Volume 3 - 1 |
| P-3 Modernization Program | 0604221N | 88 | 05..... | Volume 3 - 123 |
| Personnel, Trng, Sim, & Human Factors | 0604703N | 120 | 05..... | Volume 3 - 837 |
| SSN-688 & Trident Modernization | 0604503N | 109 | 05..... | Volume 3 - 617 |
| SSN-688 and Trident Modernization-MIP | 0304503N | 140 | 05..... | Volume 3 - 1259 |
| Ship Contract Design/ Live Fire T&E | 0604567N | 115 | 05..... | Volume 3 - 757 |
| Ship Self Def (Detect & Cntrl) | 0604755N | 122 | 05..... | Volume 3 - 859 |
| Ship Self Def (Engage: Hard Kill) | 0604756N | 123 | 05..... | Volume 3 - 897 |
| Ship Self Def (Engage: Soft Kill/EW) | 0604757N | 124 | 05..... | Volume 3 - 915 |
| Shipboard Aviation Systems | 0604512N | 111 | 05..... | Volume 3 - 677 |
| Small Diameter Bomb (SDB) | 0604329N | 103 | 05..... | Volume 3 - 477 |
| Standard Missile Improvements | 0604366N | 104 | 05..... | Volume 3 - 497 |
| Standards Development | 0604215N | 85 | 05..... | Volume 3 - 43 |
| Submarine Tactical Warfare System | 0604562N | 114 | 05..... | Volume 3 - 743 |
| Surface Combatant Cmbt Sys Eng | 0604307N | 101 | 05..... | Volume 3 - 453 |
| Tactical Command System | 0604231N | 90 | 05..... | Volume 3 - 159 |
| Tactical Command System - MIP | 0304231N | 139 | 05..... | Volume 3 - 1251 |
| Tactical Cryptologic Systems | 0304785N | 141 | 05..... | Volume 3 - 1267 |
| V-22A | 0604262N | 94 | 05..... | Volume 3 - 297 |

UNCLASSIFIED

UNCLASSIFIED

Navy • President's Budget FY 2012 • RDT&E Program

| Program Element Title | Program Element Number | Line Item | Budget Activity | Page |
|----------------------------------|-------------------------------|------------------|------------------------|-------------|
| VH-71 Executive Helo Development | 0604273N | 98 | 05.....Volume 3 - | 379 |
| Warfare Support System | 0604230N | 89 | 05.....Volume 3 - | 137 |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | | | | R-1 ITEM NOMENCLATURE | | | | | | | |
|---|----------------|----------------|---------------------|--|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | PE 0604212N: <i>Other Helicopter Development</i> | | | | | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| Total Program Element | 56.409 | 44.329 | 35.651 | - | 35.651 | 24.401 | 14.228 | 4.695 | 4.778 | Continuing | Continuing |
| 1109: <i>CH/MH-53</i> | 2.884 | 3.526 | 3.271 | - | 3.271 | 2.459 | 2.794 | 2.833 | 2.881 | Continuing | Continuing |
| 2415: <i>H-60 Development</i> | 47.888 | 38.910 | 30.606 | - | 30.606 | 20.167 | 9.656 | 0.095 | 0.098 | Continuing | Continuing |
| 2460: <i>VH-3/VH-60</i> | 1.893 | 1.893 | 1.774 | - | 1.774 | 1.775 | 1.778 | 1.767 | 1.799 | Continuing | Continuing |
| 9999: <i>Congressional Adds</i> | 3.744 | - | - | - | - | - | - | - | - | 0.000 | 3.744 |

A. Mission Description and Budget Item Justification

This Program Element includes funding for the development support for improvements to current systems for CH/MH-53, MH-60 development and VH-3/VH-60. The H-53 is the premier heavy lift helicopter for the Marine Corps and only operational airborne mine sweeping platform for the Navy. H-53 RDT&E efforts focus on trade studies and risk reduction measures to identify candidate survivability, safety, avionics, cargo handling, cockpit and other airframe specific improvements to extend the service life. The MH-60S Helicopter has three primary mission areas; Combat Support, Organic Airborne Mine Countermeasures (AMCM) and Armed Helo. The VH-3/VH-60 is required to provide safe and timely transportation for the President and Vice President of the United States, heads of state and others as directed by the White House Military Office. This PE includes Congressional Add funding : M230 30MM Chain Gun Automatic Cannon, moved from PE 0604216N.

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 53.868 | 44.329 | 31.136 | - | 31.136 |
| Current President's Budget | 56.409 | 44.329 | 35.651 | - | 35.651 |
| Total Adjustments | 2.541 | - | 4.515 | - | 4.515 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | 0.083 | - | | | |
| • SBIR/STTR Transfer | -0.985 | - | | | |
| • Program Adjustments | - | - | 4.988 | - | 4.988 |
| • Section 219 Reprogramming | -0.299 | - | - | - | - |
| • Rate/Misc Adjustments | - | - | -0.473 | - | -0.473 |
| • Congressional General Reductions | -0.018 | - | - | - | - |
| Adjustments | | | | | |
| • Congressional Add Adjustments | 3.760 | - | - | - | - |

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604212N: <i>Other Helicopter Development</i> |
|---|--|

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 9999: *Congressional Adds*

Congressional Add: *M230 30mm Chain Gun Automatic Cannon*

Congressional Add Subtotals for Project: 9999

Congressional Add Totals for all Projects

| | FY 2010 | FY 2011 |
|--|---------|---------|
| | 3.744 | - |
| | 3.744 | - |
| | 3.744 | - |

Change Summary Explanation

Technical: Not applicable.

Schedule:

1109 CH/MH-53: Not Applicable

2415 AMCM: AMCM Blk 2A Operational Testing (OT) commencement has extended into 4Q FY10 due to engineering investigations associated with Carriage, Stream, Tow and Recovery System winch, Tow Hook and finalization of the tow cable configuration. Airborne Mine Neutralization System (AMNS) Verification of Correction of Deficiencies/Developmental Test (DT) has delayed until 1Q FY11 as a result of software integration issues which required AMNS computer hardware and helicopter common console software changes, also delaying OT. Sensor software development issues resulted in the extension of Airborne Laser Mine Detection System DT from 2Q FY10 to 3Q FY10, subsequently delaying OT. However, there is no impact to Littoral Combat Ship planned testing in FY11 or FY12. Organic Airborne and Surface Influence Sweep Contractor Test has been delayed from 3Q FY10 to 3Q FY11 due to aircraft scheduling priorities, subsequently delaying DT and OT. Rapid Airborne Mine Clearance System efforts have been removed from the schedule since is not funded within the program budget.

2415 Forward Firing Weapon - Air Worthiness Certification extended 1Q FY11 due to delays in test aircraft availability. Delays in aircraft instrumentation and required maintenance resulted in a delay in the commencement of DT from 3Q FY10 to 1Q FY11, subsequently, delaying OT.

2460 VH-3/VH-60: Fuel Systems Upgrade development efforts will conclude in 4Q FY11 instead of 2Q FY12. Service Life Assessment Program will conclude in 4Q FY11 instead of 4Q FY12.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604212N: <i>Other Helicopter Development</i> | PROJECT 1109: <i>CH/MH-53</i> |
|---|--|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|----------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 1109: <i>CH/MH-53</i> | 2.884 | 3.526 | 3.271 | - | 3.271 | 2.459 | 2.794 | 2.833 | 2.881 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

The H-53 helicopter is the premier heavy lift helicopter for the Marine Corps and the only operational airborne mine sweeping platform for the Navy. Through FY2016, H-53 efforts will continue to develop and qualify components, prior to production and approval decisions, in order to replace obsolete system components. Emphasis will be placed on supportability improvement modifications that will sustain the H-53 aircraft until the transition of the H-53K is complete. These efforts combined, will significantly improve the readiness of the H-53 fleet while reducing long term operational and supportability costs. Modeling and simulation will be used to the maximum practical extent throughout this effort. Man Flight Simulator will be utilized to develop, install and test interim modifications to existing H-53 legacy avionics, while maintaining the original basic system footprint and functionality. As a part of this effort, a complete Electro Magnetic Vulnerability assessment will be required for the affected and/or modified systems.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|------------|------------|--------------|-------------|---------------|
| <p>Title: H-53 Avionics</p> <p align="right">Articles:</p> <p>FY 2010 Accomplishments: Integrated software applique for cockpit and avionics improvements, to include the development of new sensors and the impact in flight control computers. Conducted Business Case Analyses to determine impact of high Operation and Support cost drivers and address alternatives for obsolescence issues.</p> <p>FY 2011 Plans: Integrate software applique for cockpit and avionics improvements, to include the development of new sensors and the impact in flight control computers. Conduct Business Case Analyses to determine impact of high Operation and Support cost drivers and address alternatives for obsolescence issues.</p> <p>FY 2012 Base Plans: Integrate software applique for cockpit and avionics improvements, to include the development of new sensors and the impact in flight control computers. Conduct Business Case Analyses to determine impact of high Operation and Support cost drivers and address alternatives for obsolescence issues.</p> | 0.409 0 | 0.544 0 | 0.544 0 | - | 0.544 0 |
| <p>Title: H-53 Survivability</p> <p align="right">Articles:</p> <p>FY 2010 Accomplishments:</p> | 0.208 0 | 0.406 0 | 0.406 0 | - | 0.406 0 |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604212N: <i>Other Helicopter Development</i> | PROJECT 1109: <i>CH/MH-53</i> |
|---|--|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|--------------|-------------|---------------|
|---|---------|---------|--------------|-------------|---------------|

| | | | | | |
|--|------------|------------|------------|---|------------|
| <p>Performed trade studies, risk reduction, design, development, model, integration and test activities for H-53 survivability systems to include effectiveness of the ballistic vulnerability (armor) package.</p> <p>FY 2011 Plans: Perform trade studies, risk reduction, design, development, model, integration and test activities for H-53 survivability systems to include effectiveness of the ballistic vulnerability (armor) package.</p> <p>FY 2012 Base Plans: Perform trade studies, risk reduction, design, development, model, integration and test activities for H-53 survivability systems to include effectiveness of the ballistic vulnerability (armor) package.</p> | | | | | |
| <p>Title: H-53 Propulsion</p> <p align="right">Articles:</p> <p>FY 2010 Accomplishments: Performed trade studies, risk reduction, design, development, integration and test activities for H-53 T64 engine and related systems.</p> <p>FY 2011 Plans: Perform trade studies, risk reduction, design, development, integration and test activities for H-53 T64 engine and related systems.</p> <p>FY 2012 Base Plans: Perform trade studies, risk reduction, design, development, integration and test activities for H-53 T64 engine and related systems.</p> | 1.439 0 | 1.520 0 | 1.265 0 | - | 1.265 0 |
| <p>Title: Project Management Support</p> <p align="right">Articles:</p> <p>FY 2010 Accomplishments: Provided in-house, field activity, and contractor support of Integrated Product Teams (IPTs) to allow for studies and analyses, preparation of acquisition documentation and examination of equipment and avionics for the H-53. Efforts include, but are not limited to, government development support, engineering support, product management support, system engineering and logistics support, and travel for the H-53 program.</p> <p>FY 2011 Plans:</p> | 0.601 0 | 0.732 0 | 0.732 0 | - | 0.732 0 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604212N: <i>Other Helicopter Development</i> | PROJECT 1109: <i>CH/MH-53</i> |
|---|--|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|------------|------------|--------------|-------------|---------------|
| <p>Provide in-house, field activity, and contractor support of IPTs to allow for studies and analyses, preparation of acquisition documentation and examination of equipment and avionics for the H-53. Efforts include, but are not limited to, government development support, engineering support, product management support, system engineering and logistics support, and travel for the H-53 program.</p> <p>FY 2012 Base Plans: Provide in-house, field activity, and contractor support of IPTs to allow for studies and analyses, preparation of acquisition documentation and examination of equipment and avionics for the H-53. Efforts include, but are not limited to, government development support, engineering support, product management support, system engineering and logistics support, and travel for the H-53 program.</p> | | | | | |
| <p>Title: H-53 Airframe</p> <p align="right">Articles:</p> <p>FY 2010 Accomplishments: Performed trade studies, risk reduction, design, development, integration and test activities for the H-53 airframe to include, but not limited to, main rotorhead, cowlings, aircraft structure, drive train, and various dynamic components.</p> <p>FY 2011 Plans: Perform trade studies, risk reduction, design, development, integration and test activities for the H-53 airframe to include, but not limited to, main rotorhead, cowlings, aircraft structure, drive train, and various dynamic components.</p> <p>FY 2012 Base Plans: Perform trade studies, risk reduction, design, development, integration and test activities for the H-53 airframe to include, but not limited to, main rotorhead, cowlings, aircraft structure, drive train, and various dynamic components.</p> | 0.227 0 | 0.324 0 | 0.324 0 | - | 0.324 0 |
| Accomplishments/Planned Programs Subtotals | 2.884 | 3.526 | 3.271 | - | 3.271 |

UNCLASSIFIED

| | |
|--|----------------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | DATE: February 2011 |
|--|----------------------------|

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604212N: <i>Other Helicopter Development</i> | PROJECT 1109: <i>CH/MH-53</i> |
|---|--|---|

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> <u>Base</u> | <u>FY 2012</u> <u>OCO</u> | <u>FY 2012</u> <u>Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
|--------------------------------|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| • APN/0528: <i>H-53 Series</i> | 237.812 | 62.119 | 62.820 | 70.747 | 133.567 | 42.911 | 47.112 | 39.037 | 30.635 | 272.757 | 1,832.326 |

D. Acquisition Strategy

This is a non-ACAT program. H-53 RDT&E efforts will focus on trade studies and risk reduction measures to identify candidate survivability, safety, avionics, cargo handling, cockpit and other airframe specific improvements to extend the service life.

E. Performance Metrics

Successfully perform studies, analysis and develop software to address emergent H-53 issues. Successfully support developmental and operation test activities to qualify aircraft modifications/upgrades.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604212N: <i>Other Helicopter Development</i> | PROJECT 1109: <i>CH/MH-53</i> |
|---|--|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Primary Hardware Development | Various | Various:Various | 2.073 | 0.420 | Mar 2011 | 0.420 | Mar 2012 | - | | 0.420 | Continuing | Continuing | Continuing |
| Ancillary Hardware Development | Various | Various:Various | 1.570 | 0.224 | Mar 2011 | 0.224 | Mar 2012 | - | | 0.224 | Continuing | Continuing | Continuing |
| Systems Engineering | WR | NAWC AD:Patuxent River, MD | 1.682 | 0.702 | Nov 2010 | 0.524 | Nov 2011 | - | | 0.524 | Continuing | Continuing | Continuing |
| Prior Year Prod Dev | Various | Various:Various | 14.503 | - | | - | | - | | - | 0.000 | 14.503 | |
| Subtotal | | | 19.828 | 1.346 | | 1.168 | | - | | 1.168 | | | |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Software Development | Various | Various:Various | 1.745 | 0.326 | Mar 2011 | 0.326 | Mar 2012 | - | | 0.326 | Continuing | Continuing | Continuing |
| GFE | Various | NAWC AD:Patuxent River, MD | 1.320 | 0.421 | Nov 2010 | 0.421 | Nov 2011 | - | | 0.421 | Continuing | Continuing | Continuing |
| Subtotal | | | 3.065 | 0.747 | | 0.747 | | - | | 0.747 | | | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Developmental Test & Evaluation | Various | Various:Various | 4.220 | 0.947 | Mar 2011 | 0.870 | Mar 2012 | - | | 0.870 | Continuing | Continuing | Continuing |
| Subtotal | | | 4.220 | 0.947 | | 0.870 | | - | | 0.870 | | | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604212N: <i>Other Helicopter Development</i> | PROJECT 1109: <i>CH/MH-53</i> |
|---|--|---|

| CH/MH-53 | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|-------------------------------|--------------------------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Engineering Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Obsolence Issues/Studies | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Survivability Analysis | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Legacy P3I Efforts | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Safety Upgrades | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test & Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604212N - 1109

UNCLASSIFIED

| | | |
|---|--|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604212N: <i>Other Helicopter Development</i> | PROJECT 1109: <i>CH/MH-53</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| CH/MH-53 | | | | |
| Engineering Milestones: - Obsolescence Issues/Studies | 1 | 2010 | 4 | 2016 |
| Engineering Milestones: - Survivability Analysis | 1 | 2010 | 4 | 2016 |
| Engineering Milestones: - Legacy P3I Efforts | 1 | 2010 | 4 | 2016 |
| Engineering Milestones: - Safety Upgrades | 1 | 2010 | 4 | 2016 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604212N: <i>Other Helicopter Development</i> | PROJECT 2415: <i>H-60 Development</i> |
|---|--|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|-------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 2415: <i>H-60 Development</i> | 47.888 | 38.910 | 30.606 | - | 30.606 | 20.167 | 9.656 | 0.095 | 0.098 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

The Helicopter Combat Support mission is to maintain forward deployed fleet sustainability through rapid airborne delivery of materials and personnel and to support amphibious operations through search and rescue coverage. The primary roles of the aircraft are to conduct vertical replenishment, day/night ship-to-ship, ship-to-shore, and shore-to-ship external transfer of cargo; internal transport of passengers, mail and cargo, vertical on board delivery; airhead operations, and day/night search and rescue, Airborne Mine Countermeasures (AMCM) and Armed Helo. The MH-60S Operational Requirements Document was modified in May 2000 to add AMCM as a primary mission for the MH-60S. ORD Change II was validated and approved by the Joint Requirements Oversight Council on 15 February 2008 updating key performance parameters. The AMCM mission will provide Carrier Strike Groups and Expeditionary Strike Groups with an AMCM capability. The Armed Helo will provide Combat Search and Rescue, Surface Warfare and Maritime Interdiction Operations to include Link 16 and Forward Firing Weapons (FFW), which includes Rockets and Anti-swarm weapons. The aircraft secondary roles include torpedo and drone recovery, noncombatant evacuation operations, and SEAL team and Explosive Ordnance Disposal support.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|---------|---------|--------------|-------------|---------------|
| Title: MH-60S Airframe Development and Integration | 15.590 | 9.805 | 7.400 | - | 7.400 |
| Articles: | 0 | 0 | 0 | | 0 |
| Description: The effort includes design, development, integration, and support of the AMCM unique items into the MH-60S airframe. T&E on AMCM Mission Kits as each sensor/weapon system is introduced to the MH-60S. AMCM training development to include situational analysis and Instructional System Development documentation. Conduct trade studies and analysis, develop and qualify components in order to replace obsolete system components on the MH-60S and AMCM Mission Kit. Design/integrate AMCM Mission Kit upgrades to improved mission performance and ease pilot workload. Analyze, design, integrate, test, and support FFW to include training development. | | | | | |
| FY 2010 Accomplishments: Completed LINK 16 Operational Test (OT) reporting; Continued AMCM Blk 2A testing; Supported Rapid Airborne Mine Clearance System ground test conducted by PMS-495; Commenced Verification of Correction of Deficiencies (VCD)/Developmental Testing (DT) for Airborne Laser Mine Detection System (ALMDS) DT. Continued design/integration and testing of FFW. | | | | | |
| FY 2011 Plans: | | | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604212N: <i>Other Helicopter Development</i> | PROJECT 2415: <i>H-60 Development</i> |
|---|--|---|

| | | | | | |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|

Achieve Initial Operational Capability for AMCM Mission kit; Complete OT for AMCM Block 2A. Complete DT for ALMDS and commence OT; Complete VCD/DT for AMNS. Commence Organic Airborne and Surface Influence Sweep (OASIS) Contractor Test (CT). Continue FFW integration/testing efforts.

FY 2012 Base Plans:
Achieve Interim Program Review (IPR IV)/Full Rate Production (FRP) decision for AMCM Mission kit. Complete AMNS and ALMDS OT; Complete OASIS CT and DT and commence OT; initiate AMCM Spiral Upgrade efforts. Complete FFW testing and reporting.

| | | | | | |
|---|--------|--------|--------|---|--------|
| Title: MH-60S Avionics Development and Integration | 12.506 | 13.626 | 10.276 | - | 10.276 |
| Articles: | 0 | 0 | 0 | | 0 |

Description: Developmental efforts on the avionics architecture and systems of the MH-60S helicopter. Development of the operator consoles, as well as software modifications/improvements, to support AMCM systems. AMCM training development to include situational analysis, and Instructional System Development documentation for various sensors. Link 16 software development/upgrades and test for AMCM messages.

FY 2010 Accomplishments:
Continued AMCM Blk 2A testing; Conducted AMCM Blk 2B sensor/weapon system testing and FFW integration efforts.

FY 2011 Plans:
Continue AMCM Blk 2B sensor/weapon system testing to include AMNS/ALMDS and OASIS sensors. Complete Block 2A OT testing.

FY 2012 Base Plans:
Continue AMCM Blk 2B sensor/weapon system testing. Support AMCM Spiral Upgrade efforts.

| | | | | | |
|--|--------|--------|--------|---|--------|
| Title: MH-60S Test, Engineering, Logistics, Mgt Support | 19.792 | 15.479 | 12.930 | - | 12.930 |
| Articles: | 0 | 0 | 0 | | 0 |

Description: Navy field activity systems engineering, logistics support, management and travel for the AMCM MH-60S Weapons System Integration Team for airframe and avionics, and FFW integration. Support/conduct MH-60S aircraft integration testing for AMCM sensor/weapon systems and FFW.

FY 2010 Accomplishments:

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604212N: <i>Other Helicopter Development</i> | PROJECT 2415: <i>H-60 Development</i> |
|---|--|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|---------|---------|--------------|-------------|---------------|
| Supported, planned and conducted AMCM 2A/2B sensor/weapon system and FFW testing and evaluation. FY 2011 Plans: Complete AMCM 2A testing and integration efforts to include IOC. Continue support of test and integration of AMCM 2B sensor/weapon system and complete FFW integration. FY 2012 Base Plans: Continue AMCM 2B sensor/weapon system testing and integration efforts. Support FRP decision for AMCM Mission Equipment. Complete FFW test and integration efforts. | | | | | |
| Accomplishments/Planned Programs Subtotals | 47.888 | 38.910 | 30.606 | - | 30.606 |

C. Other Program Funding Summary (\$ in Millions)

| Line Item | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|-------------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| • APN1/017900: <i>MH-60S</i> | 471.508 | 548.671 | 482.961 | 0.000 | 482.961 | 458.046 | 466.497 | 281.765 | 29.550 | 0.000 | 7,041.324 |
| • APN6/060510: <i>MH-60S SPARES</i> | 0.640 | 1.204 | 0.887 | 0.000 | 0.887 | 0.900 | 0.000 | 0.000 | 0.000 | 0.000 | 166.553 |
| • APN5/053000: <i>H-60 MODS</i> | 31.799 | 34.177 | 28.928 | 0.000 | 28.928 | 18.625 | 20.277 | 27.911 | 38.672 | 101.168 | 372.486 |

D. Acquisition Strategy

AMCM and Armed Helo are elements of the existing MH-60S ACAT IC Program. MH-60S will employ an evolutionary acquisition approach via the MH-60S Block Upgrades. This allows for future modification for systems still in early development. The block upgrades will maximize commonality across all MH-60S missions and all AMCM/Armed Helo weapon systems, including logistics, training and maintenance. The MH-60S block upgrades are as follows.

- Block 1 - Combat Support Helicopter
- Block 2 - Organic Airborne Mine Countermeasures
- Block 3 - Armed Helo

E. Performance Metrics

Successfully achieve Initial Operational Capability for AMCM. Successfully conduct Interim Program Review IV for AMCM to achieve AMCM ancillary kit full rate production decision. Successfully complete Developmental Test/Operational Test for Block IIA AMCM sensor integration. Successfully complete FFW Developmental/Operational Testing.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604212N: <i>Other Helicopter Development</i> | PROJECT 2415: <i>H-60 Development</i> |
|---|--|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Primary Hdw Dev - Airframe* | SS/CPIF | Sikorsky:Stratford, CT | 161.547 | 5.305 | Dec 2010 | 4.850 | Dec 2011 | - | | 4.850 | 6.615 | 178.317 | 178.317 |
| Primary Hdw Dev - Airframe FFW | SS/CPFF | Sikorsky:Stratford, CT | 8.637 | 1.000 | Dec 2010 | - | | - | | - | 0.000 | 9.637 | 9.637 |
| Primary Hdw Dev - Avionics* | SS/CPIF | Lockheed Martin:Owego, NY | 196.147 | 13.626 | Dec 2010 | 10.276 | Dec 2011 | - | | 10.276 | 8.070 | 228.119 | 228.119 |
| Primary Hdw Dev - CSTRS | WR | NSWC:Panama City | 18.130 | 2.500 | Dec 2010 | 1.500 | Dec 2011 | - | | 1.500 | 1.000 | 23.130 | |
| Primary Hdw Dev - CSTRS | MIPR | CECOM:FT Monmouth, NJ | 10.979 | 1.000 | Dec 2010 | 1.050 | Dec 2011 | - | | 1.050 | 0.658 | 13.687 | |
| All Product Dev Cost from FY97-FY10 | Various | Various:Various | 51.554 | - | | - | | - | | - | 0.000 | 51.554 | |
| Subtotal | | | 446.994 | 23.431 | | 17.676 | | - | | 17.676 | 16.343 | 504.444 | |

Remarks
Remarks: * PY SS/CPAF - 2%
FY05-FY12 SS/CPIF

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| ILS - MSS (Non FFRDC) | Various | Various:Various | 2.230 | 0.439 | Dec 2010 | 0.350 | Dec 2011 | - | | 0.350 | 0.450 | 3.469 | |
| Integrated Logistics Support | WR | Various:Various | 5.149 | 0.411 | Nov 2010 | 0.470 | Nov 2011 | - | | 0.470 | 0.700 | 6.730 | |
| All Support cost from FY98-FY10 | Various | Various:Various | 8.589 | - | | - | | - | | - | 0.000 | 8.589 | |
| Subtotal | | | 15.968 | 0.850 | | 0.820 | | - | | 0.820 | 1.150 | 18.788 | |

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604212N: <i>Other Helicopter Development</i> | PROJECT 2415: <i>H-60 Development</i> |
|---|--|---|

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Dev Test & Evaluation | WR | NAWCAD:Patuxent River, MD | 33.907 | 5.915 | Nov 2010 | 4.300 | Nov 2011 | - | | 4.300 | 5.000 | 49.122 | |
| Dev Test & Evaluation | WR | Various:Various | 18.578 | 0.650 | Nov 2010 | 0.650 | Nov 2011 | - | | 0.650 | 0.000 | 19.878 | |
| Operational Test & Evaluation | WR | OPTEVFOR:Norfolk, VA | 1.385 | 3.150 | Nov 2010 | 2.275 | Nov 2011 | - | | 2.275 | 1.900 | 8.710 | |
| All Test & Eval Costs from FY97-FY10 | Various | Various:Various | 6.159 | - | | - | | - | | - | 0.000 | 6.159 | |
| Subtotal | | | 60.029 | 9.715 | | 7.225 | | - | | 7.225 | 6.900 | 83.869 | |

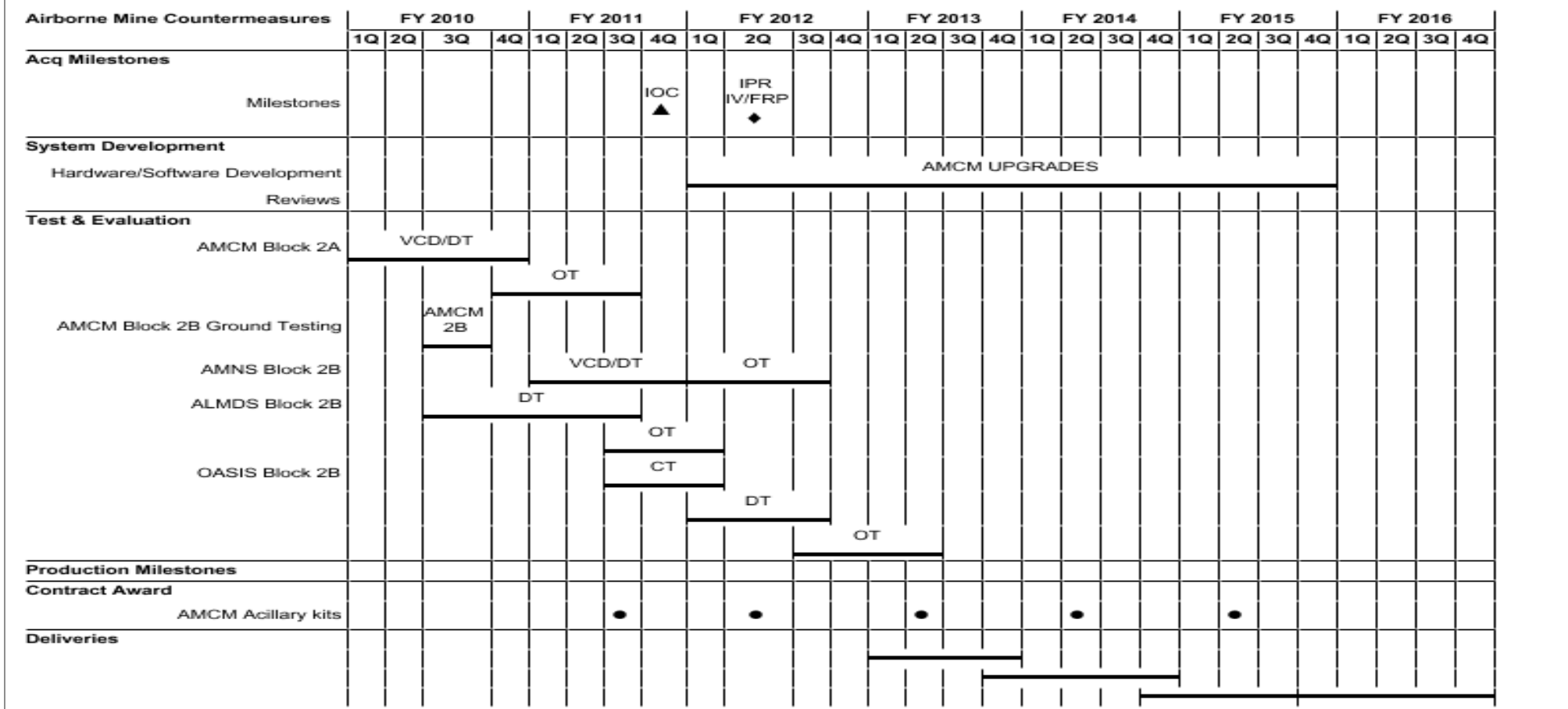
| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Eng & Tech Svc (Non FFRDC) | Various | Various:Various | 15.137 | 1.328 | Jan 2011 | 0.845 | Jan 2012 | - | | 0.845 | 0.550 | 17.860 | |
| Government Engineering Support | WR | NAWCAD:Patuxent River, MD | 10.734 | 1.286 | Nov 2010 | 1.883 | Nov 2011 | - | | 1.883 | 1.015 | 14.918 | |
| Government Engineering Support | WR | NSWC:Panama City, FL | 29.546 | 0.800 | Nov 2010 | 0.800 | Nov 2011 | - | | 0.800 | 1.250 | 32.396 | |
| Government Engineering Support | WR | Various:Various | 24.623 | 0.500 | Dec 2010 | 0.205 | Dec 2011 | - | | 0.205 | 1.127 | 26.455 | |
| Program Mgmt Support CSS | WR | Various:Various | 4.968 | 0.412 | Jan 2011 | 0.242 | Jan 2012 | - | | 0.242 | 0.451 | 6.073 | |
| Program Mgmt Support | WR | Various:Various | 13.293 | 0.388 | Dec 2010 | 0.710 | Nov 2011 | - | | 0.710 | 0.930 | 15.321 | |
| Travel | WR | Various:Various | 2.726 | 0.200 | Nov 2010 | 0.200 | Nov 2011 | - | | 0.200 | 0.300 | 3.426 | |
| All Mgmt Costs from FY97-FY10 | Various | Various:Various | 0.984 | - | | - | | - | | - | 0.000 | 0.984 | |
| Subtotal | | | 102.011 | 4.914 | | 4.885 | | - | | 4.885 | 5.623 | 117.433 | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604212N: <i>Other Helicopter Development</i> | PROJECT 2415: <i>H-60 Development</i> |
|---|--|---|



2012PB - 0604212N - 2415

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604212N: *Other Helicopter Development*

PROJECT

2415: *H-60 Development*

| Forward Firing Weapon | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|----------------------------|------------|----|----|----|------------|------------|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q |
| System Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hardware Development | ██████████ | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reviews | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test and Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Air Worthiness | ██████████ | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DT | | | | | ██████████ | | | | | | | | | | | | | | | | | | | | | | | |
| OT | | | | | | ██████████ | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604212N - 2415

UNCLASSIFIED

| | | |
|---|--|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604212N: <i>Other Helicopter Development</i> | PROJECT 2415: <i>H-60 Development</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| <i>Airborne Mine Countermeasures</i> | | | | |
| Acq Milestones: Milestones: - Initial Operational Capability-AMCM | 4 | 2011 | 4 | 2011 |
| Acq Milestones: Milestones: - IPR IV/FRP AMCM | 2 | 2012 | 2 | 2012 |
| System Development: Hardware/Software Development: - AMCM Spiral Upgrades | 1 | 2012 | 4 | 2015 |
| Test & Evaluation: AMCM Block 2A: - Verification of Correction of Deficiencies (VCD) / Development Testing (DT) (Block 2A) | 1 | 2010 | 4 | 2010 |
| Test & Evaluation: AMCM Block 2A: - Operational Testing (OT) Block 2A | 4 | 2010 | 3 | 2011 |
| Test & Evaluation: AMCM Block 2B Ground Testing: - AMCM 2B Ground Testing | 3 | 2010 | 3 | 2010 |
| Test & Evaluation: AMNS Block 2B: - Verification of Correction of Deficiencies (VCD) / Developmental Testing (DT) (AMNS) | 1 | 2011 | 4 | 2011 |
| Test & Evaluation: AMNS Block 2B: - Operational Testing (OT) (AMNS) | 1 | 2012 | 3 | 2012 |
| Test & Evaluation: ALMDS Block 2B: - Developmental Testing (DT) (ALMDS) | 3 | 2010 | 3 | 2011 |
| Test & Evaluation: ALMDS Block 2B: - Operational Testing (OT) (ALMDS) | 3 | 2011 | 1 | 2012 |
| Test & Evaluation: OASIS Block 2B: - Contractor Test (OASIS) | 3 | 2011 | 1 | 2012 |
| Test & Evaluation: OASIS Block 2B: - Development Testing (DT) (OASIS) | 1 | 2012 | 3 | 2012 |
| Test & Evaluation: OASIS Block 2B: - Operation Testing (OT) (OASIS) | 3 | 2012 | 2 | 2013 |
| Contract Award: AMCM Acillary kits: - Contract Award - LRIP (AMCM Ancillary Kits-FY11) | 3 | 2011 | 3 | 2011 |
| Contract Award: AMCM Acillary kits: - Contract Award - Production (AMCM Ancillary Kits-FY12) | 2 | 2012 | 2 | 2012 |
| Contract Award: AMCM Acillary kits: - Contract Award - Production (AMCM Ancillary Kits-FY13) | 2 | 2013 | 2 | 2013 |
| Contract Award: AMCM Acillary kits: - Contract Award - Produciton (AMCM Ancillary Kits-FY14) | 2 | 2014 | 2 | 2014 |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604212N: <i>Other Helicopter Development</i> | PROJECT 2415: <i>H-60 Development</i> |
|---|--|---|

| Events by Sub Project | Start | | End | |
|--|----------------|-------------|----------------|-------------|
| | Quarter | Year | Quarter | Year |
| Contract Award: AMCM Acillary kits: - Contract Award - Produciton (AMCM Ancillary Kits-FY15) | 2 | 2015 | 2 | 2015 |
| Deliveries: - LRIP Delivery (AMCM Ancillary Kits-FY11) | 1 | 2013 | 4 | 2013 |
| Deliveries: - Production Delivery (AMCM Ancillary Kits-FY12) | 4 | 2013 | 4 | 2014 |
| Deliveries: - Production Delivery (AMCM Ancillary Kits-FY13) | 4 | 2014 | 3 | 2015 |
| Deliveries: - Production Delivery (AMCM Ancillary Kits-FY14) | 4 | 2015 | 4 | 2016 |
| <i>Forward Firing Weapon</i> | | | | |
| System Development: Hardware Development: - System Design, Build and Integration (FFW) | 1 | 2010 | 1 | 2011 |
| Test and Evaluation: - Air Worthiness Certification (FFW) | 1 | 2010 | 1 | 2011 |
| Test and Evaluation: - Developmental Testing (DT) (FFW) | 1 | 2011 | 3 | 2011 |
| Test and Evaluation: - Operational Testing (OT) (FFW) | 2 | 2011 | 1 | 2012 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604212N: <i>Other Helicopter Development</i> | PROJECT 2460: <i>VH-3/VH-60</i> |
|---|--|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|----------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 2460: <i>VH-3/VH-60</i> | 1.893 | 1.893 | 1.774 | - | 1.774 | 1.775 | 1.778 | 1.767 | 1.799 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Marine Helicopter Squadron One (HMX-1) is required to provide safe and timely transportation for the President and Vice President of the United States, heads of state and others as directed by the White House Military Office. Currently two Type, Model, Series aircraft are used by HMX-1 for the Presidential support mission - the VH-3D and the VH-60N. This project provides a Service Life Assessment Program and Aircraft Life Management Plan for both the VH-3D and VH-60N, and the design and development necessary to upgrade the safety of the fuel system on the VH-3D.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|------------|------------|--------------|-------------|---------------|
| <p>Title: VH-3D Fuel Systems Upgrade</p> <p align="right">Articles:</p> <p>Description: VH-3D Fuel Systems Upgrade provides design and development efforts to upgrade the safety of the fuel system on the VH-3D.</p> <p>FY 2011 Plans: Perform integration and test activities related to the VH-3D Fuel Systems Upgrade.</p> | - | 0.150 0 | - | - | - |
| <p>Title: VH-3D & VH-60N Service Life Assessment Program</p> <p align="right">Articles:</p> <p>Description: VH-3D & VH-60N SLAP: This project funds a SLAP for both the VH-3D and VH-60N.</p> <p>FY 2010 Accomplishments: Included government support and contract award for all efforts related to the successful completion of a SLAP on each VH aircraft.</p> <p>FY 2011 Plans: FY 2011 Plans: Includes government support for efforts related to the successful completion of a SLAP on each VH aircraft.</p> | 1.893 0 | 0.251 0 | - | - | - |
| <p>Title: VH-3D & VH-60N Aircraft Life Management Plan</p> <p align="right">Articles:</p> | - | 1.492 0 | 1.774 0 | - | 1.774 0 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604212N: <i>Other Helicopter Development</i> | PROJECT 2460: <i>VH-3/VH-60</i> |
|---|--|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|--------------|-------------|---------------|
| <p>Description: VH-3D & VH-60N Aircraft Life Management Program: Provides for management and improvement of all Executive Helicopter systems readiness including safety, operational weight, mission availability, structural integrity, component reliability, maintainability, software, and obsolescence issues as they arise.</p> <p>FY 2011 Plans: Provide government support and contract award for efforts associated with the Aircraft Life Management Program for the VH-3D and VH-60N.</p> <p>FY 2012 Base Plans: Provide government support and contract award for efforts associated with the Aircraft Life Management Program for the VH-3D and VH-60N.</p> | | | | | |
| Accomplishments/Planned Programs Subtotals | 1.893 | 1.893 | 1.774 | - | 1.774 |

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012 Base</u> | <u>FY 2012 OCO</u> | <u>FY 2012 Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To Complete</u> | <u>Total Cost</u> |
|---|----------------|----------------|---------------------|--------------------|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| • APN/056600: <i>Executive Helicopters Series</i> | 42.325 | 43.443 | 58.011 | 0.000 | 58.011 | 46.548 | 49.143 | 49.297 | 50.067 | 152.840 | 848.892 |

D. Acquisition Strategy
VH-3D and VH-60N Aircraft Life Management Plan will include trade studies necessary to address safety, operational weight, mission availability, structural integrity, component reliability, maintainability, software, and obsolescence issues as they arise. Results of these trade studies will lead to modifications to be addressed through the program's Obsolescence Management Program OSIP.

E. Performance Metrics
Completion of the VH-3D Fuel System Upgrade efforts. Completion of VH-3D and VH-60N SLAP efforts. Completion of VH-3D and VH-60N Aircraft Life Management Program efforts.

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604212N: *Other Helicopter Development*

PROJECT

2460: *VH-3/VH-60*

| VH-3/VH-60 | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|-------------------------------|----------------------------|----|----|----|---------------------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q |
| Engineering Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | VH-3D Fuel Systems Upgrade | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | VH SLAP | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | VH-3D / VH-60N ALMP | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604212N - 2460

UNCLASSIFIED

| | | |
|---|--|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604212N: <i>Other Helicopter Development</i> | PROJECT 2460: <i>VH-3/VH-60</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| <i>VH-3/VH-60</i> | | | | |
| Engineering Milestones: VH-3D Fuel Systems Upgrade | 1 | 2010 | 4 | 2011 |
| Engineering Milestones: VH SLAP | 1 | 2010 | 4 | 2011 |
| Engineering Milestones: VH-3D & VH60H Aircraft Life Management Plan | 1 | 2011 | 4 | 2016 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604212N: <i>Other Helicopter Development</i> | PROJECT 9999: <i>Congressional Adds</i> |
|---|--|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 9999: <i>Congressional Adds</i> | 3.744 | - | - | - | - | - | - | - | - | 0.000 | 3.744 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Congressional Add

B. Accomplishments/Planned Programs (\$ in Millions)

| | FY 2010 | FY 2011 |
|--|---------|---------|
| <i>Congressional Add:</i> M230 30mm Chain Gun Automatic Cannon | 3.744 | - |
| <i>FY 2010 Accomplishments:</i> 10C136: M230 Cannon qualification and 30MM Ammunition evaluation. | | |
| Congressional Adds Subtotals | 3.744 | - |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

Not required for Congressional Adds.

E. Performance Metrics

Not required for Congressional Adds.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | | | | R-1 ITEM NOMENCLATURE | | | | | | | |
|---|----------------|----------------|---------------------|---|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | PE 0604214N: <i>AV-8B Aircraft - Engine Dev</i> | | | | | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| Total Program Element | 24.134 | 22.867 | 30.676 | - | 30.676 | 23.763 | 26.862 | 24.932 | 17.021 | Continuing | Continuing |
| 0652: <i>AV-8B</i> | 20.659 | 22.867 | 30.676 | - | 30.676 | 23.763 | 26.862 | 24.932 | 17.021 | Continuing | Continuing |
| 2634: <i>OPEN SYSTEMS CORE AVIONICS REQUIREMENT</i> | 3.475 | - | - | - | - | - | - | - | - | 0.000 | 3.475 |

A. Mission Description and Budget Item Justification

The program provides for AV-8B Design, Development, Integration and Test of various platform improvements such as: Engine Life Management Program (ELMP), Escape Systems, Joint Mission Planning System (JMPS), and Block upgrades to various mission systems, communications systems, navigation equipment, weapons carriage and countermeasures, and the Aircraft Handling/Readiness Management Plan (RMP). The JMPS is required as part of the DON directed migration to a common Navy and Marine Corps mission planning system. A/C handling and performance represents all engineering activities for development and design to support aircraft safety flight clearance and concept exploration to support POM objectives. The program's Evolutionary Acquisition Strategy includes Design, Development, Integration and Test activities under the consolidated effort of Block Developments: H5.0, H6.0, H6.1 and follow-on block upgrades. H5.0 provides weapons carriage capability of the Litening pod on centerline/station 4 and also delivers Dual Mode Laser Guided Bomb capability. H6.0 block upgrade will provide weapons carriage expansion through the Digital Improved Triple Ejector Rack (D-ITER) program and will also deliver critical improvements to aircraft survivability equipment. The H6.1 update will provide enhancements and software corrections that improve the AV-8B platform combat effectiveness, survivability, and relevance through avionics processor upgrades and Litening Operational Flight Program. The ELMP is a comprehensive plan to increase safety of flight and operational readiness of the AV-8B F402-RR-408 Engine and accessories. PMA-257 will accomplish this mission by conducting Engineering Project Description investigations and performing a series of planned Accelerated Simulated Mission Endurance Test to derive engineering improvements to the engine. The Escape System qualifies an improved ejection seat to reduce the risk of injury to aircrew. The RMP is required to ensure the AV-8B air vehicle's sustained mission availability, and safe and reliable operational readiness until end of service. Air vehicle sustainment requires component and system analyses, technical planning, identification and diagnosis of problems and the development, testing and flight clearance of engineering solutions in the areas of flight and crew safety, structural integrity, obsolescence, systems reliability and maintainability, inventory preservation, alternative mission development, or other emergent material or equipment conditions affecting AV-8B systems readiness. Activities include research/analysis for system safety deficiency corrections, fuel system safety improvements, structural analyses, monitoring and integrity analysis, component obsolescence analyses including development of display computer and air data computer replacement, alternatives explorations for aging equipment, reliability improvement analyses and design developments.

FY2010 funding was realigned from P.E. 0205633N, PU 3189, for Digital Improved Triple Ejector Rack.

UNCLASSIFIED

| | |
|---|----------------------------|
| Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy | DATE: February 2011 |
|---|----------------------------|

| | |
|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604214N: <i>AV-8B Aircraft - Engine Dev</i> |
|---|---|

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 20.799 | 22.867 | 21.446 | - | 21.446 |
| Current President's Budget | 24.134 | 22.867 | 30.676 | - | 30.676 |
| Total Adjustments | 3.335 | - | 9.230 | - | 9.230 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | 3.873 | - | | | |
| • SBIR/STTR Transfer | -0.400 | - | | | |
| • Program Adjustments | - | - | 9.705 | - | 9.705 |
| • Section 219 Reprogramming | -0.138 | - | - | - | - |
| • Rate/Misc Adjustments | - | - | -0.475 | - | -0.475 |

Change Summary Explanation

Technical: Block upgrades for H7.0 and H8.0 were removed and the H6.1 software update was added.

Schedule: Acquisition Milestones for H6.0 CDR, H6.0 OTRR, H6.0 IOC and H6.0 Software Deliveries changed due to delay in H6.0 CDR.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--------------------------------------|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604214N: <i>AV-8B Aircraft - Engine Dev</i> | PROJECT 0652: <i>AV-8B</i> |
|---|---|--------------------------------------|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|----------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 0652: <i>AV-8B</i> | 20.659 | 22.867 | 30.676 | - | 30.676 | 23.763 | 26.862 | 24.932 | 17.021 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

This program provides for AV-8B Design, Development, Integration and Test of the following improvements: The Engine Life Management Program (ELMP), Escape System and Aircraft Handling/Readiness Management Plan (RMP). The ELMP is a comprehensive plan to increase safety of flight and operational readiness of the AV-8B F402-RR-408 Engine and Gas Turbine Starter (GTS), as well as other critical engine components. The Program Office will accomplish this mission through the Component Improvement Program, which entails Engineering Project Description (EPD) investigations and a series of planned Accelerated Simulated Mission Endurance Tests (ASMET) to derive safety and reliability improvements to the engine and engine components. The Escape System qualifies an improved ejection seat to reduce the risk of injury to aircrew. The Joint Mission Planning System (JMPS) is required as part of the DON directed migration to a common Navy and Marine Corps mission planning system. H5.0 Block Upgrade provides Dual Mode Laser Guided Bombs (DMLGB) and Litening Pod carriage on STA4 (Centerline). H6.0 includes weapons carriage expansion efforts and provides the first step toward Battle Space Networking interoperability within the Netcentric OP-area. The program is working closely with the Common Avionics program and the Allies (Spain and Italy) on these efforts. A/C handling and performance represents all engineering activities for development and design to support aircraft safety flight clearance and concept exploration for resolution of emergent service life and readiness issues.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|--------------|-------------|---------------|
| Title: Development of RMP Engineering Change Proposals (ECPs) | 5.461 | 7.650 | 14.291 | - | 14.291 |
| Articles: | 0 | 0 | 0 | | 0 |
| Description: Improve structural integrity of the AV-8B aircraft as well as development of an improved Radar Display Computer and Flight Control Computer. | | | | | |
| FY 2010 Accomplishments: Conducted systems engineering analyses, identification, and diagnoses of problems and the development and testing of engineering solutions in the areas of flight and crew safety, structural integrity, obsolescence, and systems reliability, and other material and equipment conditions affecting AV-8B systems readiness. Conducted studies concerning improvements and correction of deficiencies and issues including obsolescence and structural fatigue in Frame 43 and the Bullet Fairing. Analyzed component obsolescence including exploring alternative solutions and development for obsolete aging equipment including the Flight Control Computer, crew ejection system, and other safety-deficient components. Continued development and Critical Design Review | | | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--------------------------------------|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604214N: <i>AV-8B Aircraft - Engine Dev</i> | PROJECT 0652: <i>AV-8B</i> |
|---|---|--------------------------------------|

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|------------|------------|--------------|-------------|---------------|
| <p>of Radar Display Computer. Additional funds were provided to the Radar Display Computer for development efforts.</p> <p>FY 2011 Plans: Continuing to conduct systems engineering analyses, identification, and diagnosis of problems and the development and testing of engineering solutions in the areas of flight and crew safety, structural integrity, obsolescence, and systems reliability, and other material and equipment conditions affecting AV-8B systems readiness. Conducting studies concerning improvements and correction of deficiencies and issues including obsolescence and structural fatigue for Frame 43, Frame 41 and Bullet Fairing. Conducting component obsolescence analyses including alternatives explorations and development for obsolete aging equipment, to include flight control computer, aircrew systems, and other safety deficiency corrections. Continuing development and testing of Radar Display Computer, with first flight readiness review and test readiness review. Funding reduction results from funding realignment to Airborne Variable Message Format (VMF) Terminal (AVT) Development.</p> <p>FY 2012 Base Plans: Funds provided will allow for the continuation of system analyses, identification, and diagnosis of problems and the development and testing of engineering solutions in the areas of flight and crew safety, structural integrity, obsolescence, and systems reliability, and other material and equipment conditions affecting AV-8B systems readiness. Additionally, the program will conduct studies concerning improvements and correction of deficiencies and issues including obsolescence and structural fatigue as well as conducting component obsolescence analyses including alternatives explorations and development for obsolete aging equipment, to include aircrew and environmental systems, flight controls and other safety deficiency corrections. Other efforts include the continuation of development and testing of Radar Display Computer and the beginning of the development of an obsolescence replacement for the Flight Control Computer.</p> | | | | | |
| <p>Title: F402-RR-408 Engine Safety and Reliability Enhancements</p> <p align="right">Articles:</p> <p>Description: Improve Safety and Reliability of the F402-RR-408 Engine for the AV-8B Harrier.</p> <p>FY 2010 Accomplishments: Incorporated engineering changes and addressed obsolescence issues in the Enhanced Variable Inlet Guide Vane Control System (EVICS), Fuel Metering Unit (FMU), and Digital Control Unit (DCU) for the F402-RR-408 engine. Researched, analyzed, and developed design changes and improvements for engine accessories.</p> | 8.148 0 | 6.932 0 | 7.470 0 | - | 7.470 0 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--------------------------------------|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604214N: <i>AV-8B Aircraft - Engine Dev</i> | PROJECT 0652: <i>AV-8B</i> |
|---|---|--------------------------------------|

| | | | | | |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|

Addressed obsolescence issues with the Generator Control and Test Set (GCUTS) and the Air Turbine Starter Set for the F402-RR-408 engine. Funding reduction resulted from funding realignment to RMP ECPs and AVT development.

FY 2011 Plans:

Conducting research, analysis, and development of design changes and improvements to the engine and engine accessories. Continuing Component Improvement Program to ensure capabilities and performance of the F402-RR-408 and related components. Conducting multiple Engineering Change Proposals for the Gas Turbine Starter (GTS) and continuing research into improvements for the EVICS and FMU. Conducting reviews of all engine Test Cells and Support Equipment to optimize facilities and address SE obsolescence.

FY 2012 Base Plans:

Funds provided will allow for the continuation of the Component Improvement Program, further ensuring the capabilities and performance of the F402-RR-408 and related components. The prototype EVICS Interrogator will undergo test and evaluation and improvements to the GTS will continue. Complete EVICS design and start Kit procurements. Mitigate Test Cell facilities and Support Equipment obsolescence through Redesign and procurements.

| | | | | | |
|--|-------|-------|-------|---|-------|
| <i>Title:</i> Operational Flight Program (OFP) and Avionics Weapons Systems Development and Integration | 7.050 | 8.285 | 8.915 | - | 8.915 |
| <i>Articles:</i> | 0 | 0 | 0 | | 0 |

Description: Develop AVT, formerly Strikelink/A, Litening Pod software updates, and support aircraft avionics development efforts.

FY 2010 Accomplishments:

Efforts included developmental and integration testing in support of H6.0 block upgrade, which includes weapons carriage expansion. Continued AVT (StrikeLink/A) development and Litening Pod software updates. Additional funds increase results from realignment to support AVT development.

FY 2010 accomplishment includes BTRs for \$1.640 for VX-31 test aircraft support and \$2.233 for AVT development.

FY 2011 Plans:

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--------------------------------------|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604214N: <i>AV-8B Aircraft - Engine Dev</i> | PROJECT 0652: <i>AV-8B</i> |
|---|---|--------------------------------------|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|---------|---------|--------------|-------------|---------------|
| Funds are providing for continuation of AVT development and testing, future capability expansion studies and analyses, and aircraft OFP/Litening Pod software updates as part of the H6.1 block upgrade. Funds increase results from realignment to support AVT development. | | | | | |
| <i>FY 2012 Base Plans:</i> Funds will provide for completion of AVT development and testing, future capability expansion studies and analyses, and aircraft OFP/Litening Pod software updates as part of the H6.1 block upgrade. | | | | | |
| Accomplishments/Planned Programs Subtotals | 20.659 | 22.867 | 30.676 | - | 30.676 |

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012 Base</u> | <u>FY 2012 OCO</u> | <u>FY 2012 Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To Complete</u> | <u>Total Cost</u> |
|--|----------------|----------------|---------------------|--------------------|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| • APN/0514: <i>AV-8B Series Modification</i> | 48.044 | 91.486 | 30.762 | 53.485 | 84.247 | 28.829 | 29.116 | 25.595 | 18.830 | 322.080 | 1,462.693 |

D. Acquisition Strategy

All efforts under Aircraft Handling/RMP provide investigations and analysis of testing and flight clearance authorization necessary to assess overall system capability and integration of projects. Funding for the Engine Life Management Program (ELMP) will be placed on a cost-type contract to Rolls Royce to address safety of flight issues, top readiness degraders, engine removal and mission failure drivers in order to improve Fleet readiness and reduce cost of ownership. It is also developed to assess life management program issues and design fixes for any service revealed deficiencies. The program's Evolutionary Acquisition Strategy includes Design, Development, Integration and Test activity under the consolidated effort of Block Developments: H2.0, H4.0, H5.0, H6.0, H6.1 and following systems. The development and integration of Joint Mission Planning System (JMPS) occurred concurrently with H2.0. H4.0 Block improvements included the Tactical Aircraft Moving Map Capability. H5.0 Block Upgrade provides DMLGB, Litening Centerline/Station 4 (improvement of current weapons carriage capability). The program is working closely with the Allies (Spain and Italy) and the Common Avionics program on these efforts for H6.0 and H6.1. H6.0 provides weapons carriage expansion efforts and the first step toward Battle Space Networking interoperability within the Netcentric OP-area. The H6.1 update will provide enhancements and software corrections that improve the AV-8B platform combat effectiveness, survivability, and relevance through avionics processor upgrades and Litening OFP.

E. Performance Metrics

Achieve ELMP contract award in 1Q FY2012, complete RMP Display Computer System Development in 4Q FY2012, and initiate Flight Control Computer System Development in 2Q FY2012. Continue systems development for the Airborne Variable Message Format Terminal (AVT), developmental test for the RMP Display Computer and support studies to incorporate TDL capability.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--------------------------------------|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604214N: <i>AV-8B Aircraft - Engine Dev</i> | PROJECT 0652: <i>AV-8B</i> |
|---|---|--------------------------------------|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Primary Hardware Development | C/CPFF | Mgmt Sciences:Albuquerque, NM | 0.464 | - | | - | | - | | - | 0.000 | 0.464 | 0.464 |
| Primary Hardware Development | C/CPFF | Rolls-Royce PLC:Bristol, GB | 20.302 | 2.616 | Dec 2010 | 3.186 | Dec 2011 | - | | 3.186 | 11.108 | 37.212 | 41.081 |
| Primary Hardware Development | C/CPFF | McDonnell Douglas:St. Louis, MO | 1.465 | - | | - | | - | | - | 0.000 | 1.465 | 1.465 |
| Primary Hardware Development | C/FFP | Goodrich PS:Pitstone, GB | 4.450 | - | | - | | - | | - | 0.000 | 4.450 | 4.450 |
| Primary Hardware Development | WR | NAWCWD:China Lake, CA | 40.820 | 4.215 | Dec 2010 | 3.329 | Dec 2011 | - | | 3.329 | Continuing | Continuing | Continuing |
| Primary Hardware Development | Various | Various:Various | 10.067 | - | | - | | - | | - | 0.000 | 10.067 | 10.067 |
| Primary Hardware Development | C/CPFF | GE Aviation DS:Grand Rapids, MI | 13.512 | 3.327 | Feb 2011 | 0.300 | Feb 2012 | - | | 0.300 | 3.371 | 20.510 | 20.510 |
| Primary Hardware Development | C/CPFF | Stauder:St. Peters, MO | 7.546 | 3.553 | Jan 2011 | 3.400 | Jan 2012 | - | | 3.400 | 7.580 | 22.079 | 22.079 |
| Primary Hardware Development | WR | NAWCAD:Patuxent River, MD | - | - | | 0.300 | Nov 2011 | - | | 0.300 | 0.000 | 0.300 | 0.300 |
| Primary Hardware Development | C/CPFF | TBD:TBD | - | - | | 7.754 | Jan 2012 | - | | 7.754 | 0.000 | 7.754 | 7.795 |
| Systems Engineering | Various | McDonnell Douglas:St. Louis, MO | 7.700 | 0.700 | Dec 2010 | 1.016 | Dec 2011 | - | | 1.016 | 0.177 | 9.593 | 9.593 |
| Systems Engineering | Various | Various:Various | 0.520 | - | | - | | - | | - | 0.000 | 0.520 | 0.520 |
| Systems Engineering | WR | NAWCWD:China Lake, CA | 1.073 | - | | 2.705 | Dec 2011 | - | | 2.705 | Continuing | Continuing | Continuing |
| Systems Engineering | MIPR | Wright Patterson AFB:Dayton, OH | 0.278 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Subtotal | | | 108.197 | 14.411 | | 21.990 | | - | | 21.990 | | | |

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--------------------------------------|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604214N: <i>AV-8B Aircraft - Engine Dev</i> | PROJECT 0652: <i>AV-8B</i> |
|---|---|--------------------------------------|

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|--------------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Configuration Management | Various | Various:Various | 0.397 | - | | - | | - | | - | 0.000 | 0.397 | 0.397 |
| Engineering Technical Services (CSS) | C/CPFF | EDO Professional Services, Inc.:Arlington, VA | 1.737 | - | | - | | - | | - | 0.000 | 1.737 | 1.830 |
| Integrated Logistics Support | WR | NAWCAD:Patuxent River, MD | 1.436 | - | | - | | - | | - | 0.000 | 1.436 | 1.436 |
| Software Development | Various | DCMA Boeing:St. Louis, MO | 1.148 | - | | - | | - | | - | 0.000 | 1.148 | 1.148 |
| Software Development | WR | NAWCWD:China Lake, CA | 10.889 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Software Development | Various | Various:Various | 18.875 | - | | - | | - | | - | 0.000 | 18.875 | 19.967 |
| Software Development | C/CPFF | Northrup Grumman:Rolling Meadows, IL | 2.000 | - | | - | | - | | - | 0.000 | 2.000 | 2.000 |
| Studies and Analysis | Various | Various:Various | 2.388 | 0.154 | Jun 2011 | 0.157 | Jun 2012 | - | | 0.157 | 3.900 | 6.599 | 6.770 |
| Support | Various | DCMA Boeing:St. Louis, MO | 5.490 | - | | - | | - | | - | 0.000 | 5.490 | 5.490 |
| Technical Data | C/CPFF | Various:Various | 2.095 | 0.236 | Nov 2010 | 0.245 | Nov 2011 | - | | 0.245 | 0.320 | 2.896 | 2.896 |
| Subtotal | | | 46.455 | 0.390 | | 0.402 | | - | | 0.402 | | | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Developmental Test & Evaluation | C/CPFF | McDonnell Douglas:St. Louis, MO | - | - | | - | | - | | - | 5.689 | 5.689 | 5.689 |
| Developmental Test & Evaluation | WR | NAWCWD:China Lake, CA | 39.460 | 1.670 | Jan 2011 | 1.725 | Jan 2012 | - | | 1.725 | Continuing | Continuing | Continuing |
| Operational Test & Evaluation | WR | COMOPTEVFOR:Norfolk, VA | 22.717 | 0.206 | Jan 2011 | - | | - | | - | 0.000 | 22.923 | 24.727 |
| Operational Test & Evaluation | WR | | 2.824 | - | | - | | - | | - | Continuing | Continuing | Continuing |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--------------------------------------|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604214N: <i>AV-8B Aircraft - Engine Dev</i> | PROJECT 0652: <i>AV-8B</i> |
|---|---|--------------------------------------|

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|---------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| | | NAWCWD:China Lake, CA | | | | | | | | | | | |
| Test Assets | C/CPFF | GE Aviation DS:Grand Rapids, MI | 0.972 | - | | - | | - | | - | 0.000 | 0.972 | 0.972 |
| Subtotal | | | 65.973 | 1.876 | | 1.725 | | - | | 1.725 | | | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Engineering & Tec SRVC (Non-FFRDC) | C/CPFF | Various:Various | 2.274 | 0.650 | Jan 2011 | 0.743 | Jan 2012 | - | | 0.743 | 7.432 | 11.099 | 12.192 |
| Government Engineering Support | WR | Various:Various | 6.969 | 2.033 | Nov 2010 | 2.076 | Nov 2011 | - | | 2.076 | Continuing | Continuing | Continuing |
| MGT & PROF SUPPT SRVC (NON-FFRDC) | C/CPFF | Various:Various | 5.626 | 1.130 | Nov 2010 | 1.187 | Nov 2011 | - | | 1.187 | 12.542 | 20.485 | 20.697 |
| Program Management Support | WR | Various:Various | 6.642 | 2.242 | Nov 2010 | 2.426 | Nov 2011 | - | | 2.426 | Continuing | Continuing | Continuing |
| Travel | WR | Various:Various | 0.812 | 0.135 | Jun 2011 | 0.127 | Jun 2012 | - | | 0.127 | Continuing | Continuing | Continuing |
| Subtotal | | | 22.323 | 6.190 | | 6.559 | | - | | 6.559 | | | |

| | Total Prior Years Cost | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|------------------------|---------|--------|--------------|--------|-------------|---|---------------|------------------|------------|--------------------------|
| Project Cost Totals | | 242.948 | 22.867 | | 30.676 | | - | 30.676 | | | |

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

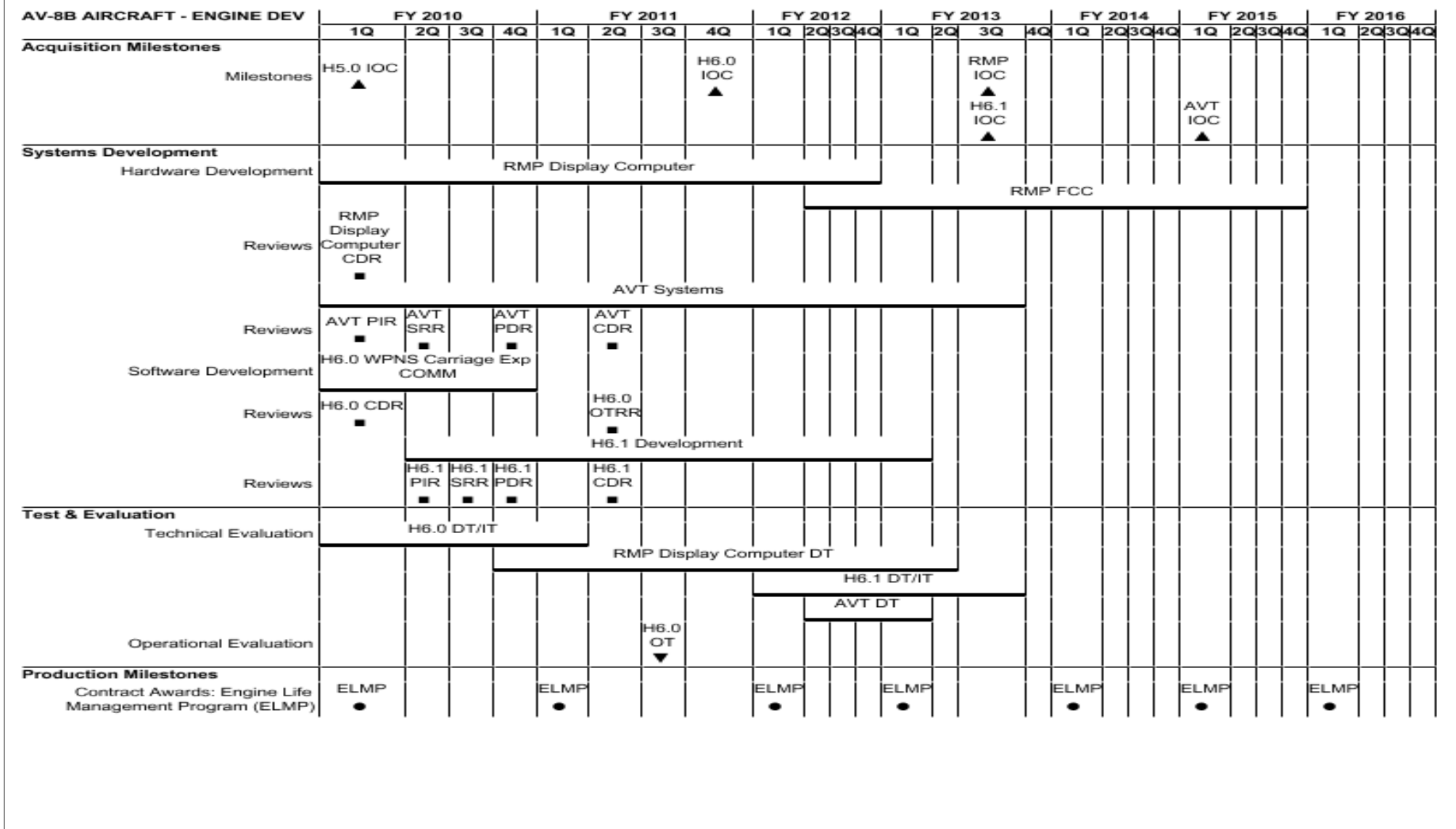
1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604214N: *AV-8B Aircraft - Engine Dev*

PROJECT

0652: *AV-8B*



UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|---|--------------------------------------|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604214N: <i>AV-8B Aircraft - Engine Dev</i> | PROJECT 0652: <i>AV-8B</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| AV-8B AIRCRAFT - ENGINE DEV | | | | |
| Acquisition Milestones: Milestones: H5.0 Initial Operational Capability (IOC) | 1 | 2010 | 1 | 2010 |
| Acquisition Milestones: Milestones: H6.0 IOC | 4 | 2011 | 4 | 2011 |
| Acquisition Milestones: Milestones: Readiness Management Program (RMP) Display Computer Initial Operational Capability (IOC) | 3 | 2013 | 3 | 2013 |
| Acquisition Milestones: Milestones: H6.1 IOC | 3 | 2013 | 3 | 2013 |
| Acquisition Milestones: Milestones: Airborne Variable Message Format Terminal (AVT) Initial Operational Capability (IOC) | 1 | 2015 | 1 | 2015 |
| Systems Development: Hardware Development: RMP Display Computer System Development | 1 | 2010 | 4 | 2012 |
| Systems Development: Hardware Development: RMP Flight Control Computer System (FCC) Development | 2 | 2012 | 4 | 2015 |
| Systems Development: Reviews: RMP Display Computer Critical Design Review (CDR) | 1 | 2010 | 1 | 2010 |
| Systems Development: Reviews: AVT Systems Development | 1 | 2010 | 3 | 2013 |
| Systems Development: Reviews: AVT Program Initiation Review (PIR) | 1 | 2010 | 1 | 2010 |
| Systems Development: Reviews: AVT System Requirements Review (SRR) | 2 | 2010 | 2 | 2010 |
| Systems Development: Reviews: AVT PDR | 4 | 2010 | 4 | 2010 |
| Systems Development: Reviews: AVT CDR | 2 | 2011 | 2 | 2011 |
| Systems Development: Software Development: H6.0 Weapons (WPNS) Carriage Expansion COMM Network Sys Dev | 1 | 2010 | 4 | 2010 |
| Systems Development: Reviews: H6.0 Critical Design Review (CDR) | 1 | 2010 | 1 | 2010 |
| Systems Development: Reviews: H6.0 Operational Test Readiness Review (OTRR) | 2 | 2011 | 2 | 2011 |
| Systems Development: Reviews: H6.1 Development | 2 | 2010 | 1 | 2013 |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--------------------------------------|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604214N: <i>AV-8B Aircraft - Engine Dev</i> | PROJECT 0652: <i>AV-8B</i> |
|---|---|--------------------------------------|

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Systems Development: Reviews: H6.1 PIR | 2 | 2010 | 2 | 2010 |
| Systems Development: Reviews: H6.1 SRR | 3 | 2010 | 3 | 2010 |
| Systems Development: Reviews: H6.1 CDR | 2 | 2011 | 2 | 2011 |
| Systems Development: Reviews: H6.1 Preliminary Design Review (PDR) | 4 | 2010 | 4 | 2010 |
| Test & Evaluation: Technical Evaluation: H6.0 Development Test/ Integrated Test (DT/IT) | 1 | 2010 | 1 | 2011 |
| Test & Evaluation: Technical Evaluation: RMP Display Computer DT | 4 | 2010 | 2 | 2013 |
| Test & Evaluation: Technical Evaluation: H6.1 DT/IT | 1 | 2012 | 3 | 2013 |
| Test & Evaluation: Technical Evaluation: AVT DT | 2 | 2012 | 1 | 2013 |
| Test & Evaluation: Operational Evaluation: H6.0 Operational Test (OT) | 3 | 2011 | 3 | 2011 |
| Production Milestones: Contract Awards: Engine Life Management Program (ELMP): ELMP Contract Award FY10 | 1 | 2010 | 1 | 2010 |
| Production Milestones: Contract Awards: Engine Life Management Program (ELMP): ELMP Contract Award FY11 | 1 | 2011 | 1 | 2011 |
| Production Milestones: Contract Awards: Engine Life Management Program (ELMP): ELMP Contract Award FY12 | 1 | 2012 | 1 | 2012 |
| Production Milestones: Contract Awards: Engine Life Management Program (ELMP): ELMP Contract Award FY13 | 1 | 2013 | 1 | 2013 |
| Production Milestones: Contract Awards: Engine Life Management Program (ELMP): ELMP Contract Award FY14 | 1 | 2014 | 1 | 2014 |
| Production Milestones: Contract Awards: Engine Life Management Program (ELMP): ELMP Contract Award FY15 | 1 | 2015 | 1 | 2015 |
| Production Milestones: Contract Awards: Engine Life Management Program (ELMP): ELMP Contract Award FY16 | 1 | 2016 | 1 | 2016 |
| Deliveries: H6.0 Software (S/W) Delivery | 4 | 2011 | 4 | 2011 |
| Deliveries: H6.1 S/W Delivery | 3 | 2013 | 3 | 2013 |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604214N: <i>AV-8B Aircraft - Engine Dev</i> | PROJECT 2634: <i>OPEN SYSTEMS CORE AVIONICS REQUIREMENT</i> |
|---|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 2634: <i>OPEN SYSTEMS CORE AVIONICS REQUIREMENT</i> | 3.475 | - | - | - | - | - | - | - | - | 0.000 | 3.475 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

The Open Systems Core Avionics Requirements (OSCAR) initiative is replacing the Mission Computer and Store Management System with commercial components and continued development of the common integrated Night Attack/Radar software to include integration of the 1000lb Joint Direct Attack Munitions (JDAM) weapon. The Digital Improved Triple Ejector Rack (I-TER) provides for the increased capability to the existing BRU-42 I-TER for the AV-8B platform. This provides for multiple carriage capability for smart weapons such as the JDAM.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|--------------|-------------|---------------|
| Title: OSCAR | 3.475 | - | - | - | - |
| Articles: | 0 | | | | |
| FY 2010 Accomplishments: Continued D-ITER development/integration/operational testing with H6.0 OFP block upgrade and fleet introduction of capabilities. | | | | | |
| Accomplishments/Planned Programs Subtotals | 3.475 | - | - | - | - |

C. Other Program Funding Summary (\$ in Millions)

| Line Item | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| • RDT&E,N/ 0205633N: <i>Aviation Improvements</i> | 121.986 | 133.611 | 123.012 | 0.000 | 123.012 | 118.817 | 117.581 | 118.672 | 118.705 | Continuing | Continuing |

D. Acquisition Strategy

PEO(A) ADM Ser DPEO(A)-ACQ2/015-97 dated 6 March 1997 approved the MSII acquisition strategy for OSCAR as an Acquisition Category (ACAT) IVT program. OSCAR avionics Critical Design Review was held in January 1998 and completed first flight 29 May 1998. Using the Naval Air Warfare Center - Weapons Division (NAWC-WD) Cost-Plus Award Fee (CPAF) contract, funds will be used for basic design definition, drawing development, and Operational Flight Program development and test. Twelve Mission System Computers and fourteen Warfare Management Computer engineering models have been procured for laboratory and flight test. The NAWC-WD/Boeing follow-on CPAF Contract was awarded on 16 December 1998. The period of performance will be for five years based on the need to complete OSCAR and begin follow-on software block upgrade H2.0. As directed during 4 September 1998 program restructuring, an ACAT redesignation letter was approved

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | R-1 ITEM NOMENCLATURE | PROJECT |
|---|---|---|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | PE 0604214N: <i>AV-8B Aircraft - Engine Dev</i> | 2634: <i>OPEN SYSTEMS CORE AVIONICS REQUIREMENT</i> |

changing the OSCAR program from an ACAT IVT program to an ACAT II program. Acquisition documentation will be updated accordingly to include the funding in FY2009 and FY2010 for the incorporation of Dig I-TER within OSCAR.

E. Performance Metrics

Complete H6.0 Digital ITER OTRR in 2Q 2011. Complete Digital ITER Operational Test in 3Q 2011. Accept delivery of H6.0 Digital ITER software in 4Q 2011.

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | | | | R-1 ITEM NOMENCLATURE | | | | | | | |
|---|----------------|----------------|---------------------|---|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | PE 0604215N: <i>Standards Development</i> | | | | | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| Total Program Element | 62.081 | 45.667 | 51.191 | - | 51.191 | 67.496 | 92.587 | 91.274 | 61.651 | Continuing | Continuing |
| 0572: <i>JT Service/NV Std Avionics CP/SB</i> | 41.480 | 30.961 | 36.862 | - | 36.862 | 52.127 | 77.075 | 75.446 | 45.647 | Continuing | Continuing |
| 1857: <i>Calibration Standards</i> | 1.910 | 1.401 | 1.365 | - | 1.365 | 1.877 | 1.908 | 1.950 | 1.992 | Continuing | Continuing |
| 2311: <i>Stores Planning and Weaponing Module</i> | 11.986 | 12.377 | 12.075 | - | 12.075 | 12.589 | 12.686 | 12.939 | 13.064 | Continuing | Continuing |
| 2312: <i>Common Helicopters</i> | 0.929 | 0.928 | 0.889 | - | 0.889 | 0.903 | 0.918 | 0.939 | 0.948 | Continuing | Continuing |
| 9999: <i>Congressional Adds</i> | 5.776 | - | - | - | - | - | - | - | - | 0.000 | 5.776 |

Note

FY12-FY16 Avionics Component Improvement Program (AvCIP) - Funding has been moved from PE 0702239N, Project Unit 3170.

A. Mission Description and Budget Item Justification

This project provides for the identification, study, design, development, demonstration, test, evaluation, and qualification of standard avionics capabilities for Navy use, and wherever practicable, use across all Services and Foreign Military Sales. Such air combat electronics developments include communications and airborne networking, navigation and sensors, flight avionics, safety systems, and flight mission information systems for both forward fit and retrofit aircraft. These efforts continue to maintain federated systems while encouraging transition of procurements to support a modular system for enhanced performance and affordability. Consideration is given up front to reduce acquisition costs through larger procurement quantities that satisfy multi-aircraft customer requirements and that reduce life cycle costs in the areas of reliability, maintainability, and training. This project also provides a Navy-wide program to develop required calibration standards (hardware) in all major measurement technology areas in support of Navy Hull, Mechanical and Electrical (HM&E) systems as well as Navy Weapons systems, ground and air, throughout the Fleet. It funds Navy lead-service responsibilities in the DOD and Joint Services Metrology Research and Development program. This project supports the military requirement to verify the performance of all test systems used to validate the operation of HM&E as well as Navy Weapon Systems with calibration standards traceable to the National Institute of Standards and Technology.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604215N: <i>Standards Development</i> |
|---|---|

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 59.044 | 45.667 | 57.832 | - | 57.832 |
| Current President's Budget | 62.081 | 45.667 | 51.191 | - | 51.191 |
| Total Adjustments | 3.037 | - | -6.641 | - | -6.641 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | 4.710 | - | | | |
| • SBIR/STTR Transfer | -1.292 | - | | | |
| • Program Adjustments | - | - | -6.002 | - | -6.002 |
| • Section 219 Reprogramming | -0.358 | - | - | - | - |
| • Rate/Misc Adjustments | - | - | -0.639 | - | -0.639 |
| • Congressional General Reductions Adjustments | -0.023 | - | - | - | - |

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 9999: *Congressional Adds*

Congressional Add: *Measurement Standards Research and Development*

Congressional Add Subtotals for Project: 9999

Congressional Add Totals for all Projects

| | FY 2010 | FY 2011 |
|--|---------|---------|
| | 5.776 | - |
| | 5.776 | - |
| | 5.776 | - |

Change Summary Explanation

Technical: Not applicable.

Schedule:

0572:

Communication, Navigation, Surveillance/Air Traffic Management (CNS/ATM) - P-8 Integration/Certification moved from 3Q10-2Q11 to 1Q11-3Q11 based on the P-8 Milestone C (MS C) moving from 2Q10 to 4Q10.

Tactical Communication (TACCOM) - TACCOM Schedule adjusted for Issue 50076 POM12 Offset R&D 5% Overhead Reduction.

Ground Proximity Warning System/Terrain Awareness Warning System (GPWS/TAWS) - MV-22 GPWS efforts were cancelled per OPNAV direction in 2010.

UNCLASSIFIED

| | |
|---|----------------------------|
| Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy | DATE: February 2011 |
|---|----------------------------|

| | |
|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604215N: <i>Standards Development</i> |
|---|---|

MFOQA - Schedule changes reflect the rebaselined program. Program Management Review to Milestone Decision Authority occurred on 20 May 10 and Acquisition Program Baseline signature will follow.

COLLABORATIVE WARFARE (CW) - The Program Element (PE) was moved from N88 to N2/N6F in FY09 prior to program start. New direction was given to pursue Joint Capability Integration Development System activities and supporting experimentation/demonstration in lieu of the Collaborative Warfare process. In addition, in April 2010, the funding for FY12 through the PE end was marked and, thus, the efforts had to be re-scoped due to resource limitations.

AvCIP - Program transferred from PE 0702239N, PU 3170. Schedule provided.

CASP - FY11 collision avoidance requirements generation, initiation of design, integration, certification, and NSA IA activities. FY12 and out funding and activities transferred to CNS/ATM, GPWS/TAWS, Airborne Collision Avoidance System (ACAS), and ADDS to properly align budgets and requirements with new and existing programmatic efforts.

ADDS - FY12 new start resulting from realignment of CASP activities and initiation of new Acquisition Category program to develop and provide data management enabling H/W and S/W not covered by existing programs. TAWS activities realigned and moved to GPWS/TAWS program.

1857: Not Applicable.

2311: Acquisition Milestone Changes:

Due to a delay in contract award from January 2010 to March 2010 WASP Version 1.2.4 was adjusted accordingly:

V.1.2.4 Software Requirements Review (SRR) from 2Q FY10 to 3Q FY10, V.1.2.4 Preliminary Design Review (PDR) from 3Q FY10 to 4Q FY10, V.1.2.4 Critical Design Review (CDR) From 3Q to 4Q FY10, V.1.2.4 Test Readiness Review (TRR) from 1Q FY11 to 2Q FY11

Due to a change in contract vehicles the WASP program will be able to award the FY11 contract for Version 3.0 in the first quarter of FY11. The schedule has been realigned to reflect contract award and release dates of Version 3.0 and subsequent versions are adjusted accordingly to accommodate the earlier awards and adjustment of version releases and testing.

WASP V3.0 Phase II Technical Information Review Board (TIRB) from 2Q FY13 to 4Q FY12, V3.0 Phase II Functional Qualification Test (FQT) from 2QFY13 to 4QFY12, V3.0; Phase II Test and Evaluation from 4QFY12-1QFY13 to 3QFY12-4QFY12; V3.0 Phase II Release Initial Operational Capability (IOC) from 3QFY13 to 2QFY13.

WASP V3.1 SRR from 3Q FY13 to 3Q FY 12, V3.1 PDR, from 4Q FY13 to 4Q FY12, V3.1 CDR from 1QFY14 to 1QY13, V3.1 TRR from 3QFY14 to 3QFY13, P V3.1 TIRB from 2QFY15 to 4QFY13, V3.1 FQT from 2QFY15 to 4QFY13; V3.1 Phase II Test and Evaluation from 4QFY14-1QFY15 to 3QFY13-4QFY13; V3.1 IOC from 1QFY15 to 2QFY14.

WASP V3.2 SRR from 4Q FY14 to 3QFY13, V3.2 PDR, from 1Q FY15 to 4Q FY13, V3.2 CDR from 2QFY15 to 1QY14, V3.2 TRR from 4QFY15 to 3QFY14, V3.2 TIRB added 4QFY14, V3.2 FQT added 4QFY14; V3.2 Test and Evaluation from 4QFY15 to 3QFY14-4QFY14; V3.2 IOC added 2QFY15.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | R-1 ITEM NOMENCLATURE |
|---|---|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | PE 0604215N: <i>Standards Development</i> |

WASP V3.3 SRR added 3QFY14, V3.3 PDR, added 4Q FY14, V3.3 CDR added 1QFY15, V3.3 TRR added 3QFY15, V3.3 TIRB added 4QFY15, V3.3 FQT added 4QFY15; V3.3 Test and Evaluation added 3QFY15-4QFY15; V3.3 IOC added 2QFY16.

WASP V3.4 SRR added 3QFY15, V3.4 PDR, added 4Q FY15, V3.4 CDR added 1QFY16, V3.4 TRR added 3QFY16, V3.4 TIRB added 4QFY16, V3.4 FQT added 4QFY16; V3.4 Test and Evaluation added 2QFY16-3QFY16.

2312: Not Applicable.

9999: Not Applicable.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604215N: <i>Standards Development</i> | PROJECT 0572: <i>JT Service/NV Std Avionics CP/SB</i> |
|---|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 0572: <i>JT Service/NV Std Avionics CP/SB</i> | 41.480 | 30.961 | 36.862 | - | 36.862 | 52.127 | 77.075 | 75.446 | 45.647 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | | |

Note

The Collision Avoidance Safety Program (CASP) Program, which begins in FY11 and the follow-on Advanced Digital Data Set (ADDS) program in FY12 was simply a name change and re-distribution of requirements.
 FY12-FY16 Avionics Component Improvement Program (AvCIP) funding has been moved from PE 0702239N, PU 3170.
 Military Flight Operational Quality Assurance (MFOQA) RDT&E Article (1) for first F/A-18 Squadron.

A. Mission Description and Budget Item Justification

Joint Services/Navy Standard Avionics Components and Subsystems: This project provides for the identification, study, design, development, demonstration, test, evaluation, and qualification of standard avionics capabilities for Navy use, and wherever practicable, use across all Services and Foreign Military Sales. Standard avionics capabilities under development include the Communication Navigation Surveillance Air Traffic Management (CNS/ATM), Advanced Mission Computers and Displays (AMCD), Tactical Communications (TACCOM), Ground Proximity Warning System/Terrain Awareness Warning System (GPWS/TAWS), MFOQA, Collaborative Warfare (CW), AvCIP, CASP, ADDS and Airborne Collision Avoidance System (ACAS). Participation in Human Factors Quality Management Board (HFQMB) ensures Navy safety upgrades and mandatory safety improvements for naval aircraft.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|--------------|-------------|---------------|
| Title: Mission Computer/Mission Systems Upgrade (AMCD) | 4.140 | 0.500 | - | - | - |
| Articles: | 0 | 0 | | | |
| Description: This program will conduct research, studies, development, integration, demonstration, test and evaluation efforts to ensure viable aircraft computers, processors, and displays are developed and available to support naval aviation requirements. Perform platform integration studies and activities to expand the user base of common hardware and core system software capabilities. | | | | | |
| FY 2010 Accomplishments: Efforts for Open Systems Processor upgrade activity will focus on requirements analysis of the F/A-18E/F/G platforms in support of the Super Hornet Flight Plan increments III and IV. Conducted Trade Studies for the Fiber Channel Network Switch and Network Processor. | | | | | |
| FY 2011 Plans: | | | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604215N: <i>Standards Development</i> | PROJECT 0572: <i>JT Service/NV Std Avionics CP/SB</i> |
|---|---|---|

| | | | | | |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|

Complete Trade Study activities for Type-4 Advanced Mission Computer upgrade to support the F/A-18E/F/G Super Hornet Flight Plan with Increment III and Increment IV capabilities.

| | | | | | |
|---|-------|-------|-------|---|-------|
| Title: Integration/Certification of Developmental Aircraft (CNS/ATM) | 0.150 | 0.150 | 4.660 | - | 4.660 |
| Articles: | 0 | 0 | 0 | | 0 |

Description: This program will conduct and support CNS/ATM research, studies, development, integration, demonstration, test and evaluation efforts for Naval Aviation platforms in development. Platform integration of Mode S, 8.33kHz, Reduced Vertical Separation Minimums (RVSM), Required Navigation Performance (RNP RNAV), and Automatic Dependent Surveillance-Broadcast (ADS-B) functional integration and certification efforts into naval aircraft. Perform platform functional integration for F/A-18E/F, MH-60S, MH-60R, AH-1Z, UH-1Y and other developmental platforms in the areas of communication, navigation, surveillance, processing and displays. Assist with insertion of communication, navigation, surveillance, and supporting technologies and conduct capability certification on developmental platforms such as E-2D, P-8A, VH-71A, JSF, CH-53K, and Unmanned Air Systems. Capabilities include Mode S, 8.33kHz, RVSM, RNP/RNAV and ADS-B, and other civil and military capabilities.

FY 2010 Accomplishments:

Completed E-2D Integration/Certification of Mode S & 8.33kHz and completed RNP/RNAV integration and certification efforts into the E-2D.

FY 2011 Plans:

Initiate P-8A Integration/Certification of RVSM & RNP RNAV capability.

FY 2012 Base Plans:

Integrate ADS-B into MH-53E concurrent with Cockpit Upgrade.

| | | | | | |
|---|-------|-------|-------|---|-------|
| Title: Provide Support to Tri-Service/Joint Programs | 1.037 | 1.060 | 1.000 | - | 1.000 |
| Articles: | 0 | 0 | 0 | | 0 |

FY 2010 Accomplishments:

Joint Services Review Committee (JSRC) - Provided leadership in support of the Navy's interest to the JSRC tri-service committee promoting commonality and joint programs with focus on interoperability, communications, CNS/ATM, Joint Services avionics obsolescence management and the update of the Core Avionics Master Plan

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604215N: <i>Standards Development</i> | PROJECT 0572: <i>JT Service/NV Std Avionics CP/SB</i> |
|---|---|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|--------------|-------------|---------------|
|---|---------|---------|--------------|-------------|---------------|

| | | | | | |
|--|--|--|--|--|--|
| <p>(CAMP). Supported and participated in Naval Aviation Requirements (NARG) panels, Operational Advisory Groups (OAG), and HFQMB.</p> <p>FY 2011 Plans: JSRC - Provide leadership in support of the Navy's interest to the JSRC tri-service committee promoting commonality and joint programs with focus on interoperability, communications, CNS/ATM, Joint Services avionics obsolescence management and the update of the CAMP. Support and participate in NARG panels, OAG, and HFQMB.</p> <p>FY 2012 Base Plans: JSRC - Provide leadership in support of the Navy's interest to the JSRC tri-service committee promoting commonality and joint programs with focus on interoperability, communications, CNS/ATM, Joint Services avionics obsolescence management and the update of the CAMP. Support and participate in NARG panels, OAG, and HFQMB.</p> | | | | | |
|--|--|--|--|--|--|

| | | | | | |
|--|------------|------------|------------|---|------------|
| <p>Title: Develop Evolutionary Communication Systems (TACCOM)</p> <p align="right">Articles:</p> | 9.633 0 | 3.681 0 | 3.601 0 | - | 3.601 0 |
|--|------------|------------|------------|---|------------|

| | | | | | |
|---|--|--|--|--|--|
| <p>Description: This program will conduct research, studies, development, integration, demonstration, test and evaluation efforts to ensure tactical communication systems and capabilities are developed and available to support naval aviation requirements. Perform tactical communication platform integration studies and activities to determine technical and cost effective solutions across Naval Aviation. Develop tactical communications (voice/data) requirements, concepts and systems which have application across Naval Aviation. Support all necessary tasks to ensure evolution of legacy communications systems incorporating programmable Communication Security/Information Assurance, Variable Message Format, Beyond Line-of-Sight, Mobile Users Objective System (MUOS), Satellite Communication, High Frequency, civil interoperability, and Joint Precision Approach Landing System (JPALS) data link into the ARC-210 system. Support for networking requirements development and prototyping, Integrated Waveform, Intelligence Broadcast System, Joint Tactical Radio System, Tactical Networks, Datalinks and Link 16. Awarded integration study contracts for Tactical Communication systems within E-2 AHE (Advanced Hawkeye), H-1, H-53, V22, and AV-8B and other aircraft along with Link-16 and MUOS.</p> | | | | | |
|---|--|--|--|--|--|

| | | | | | |
|---------------------------------|--|--|--|--|--|
| FY 2010 Accomplishments: | | | | | |
|---------------------------------|--|--|--|--|--|

UNCLASSIFIED

| | |
|--|----------------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | DATE: February 2011 |
|--|----------------------------|

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604215N: <i>Standards Development</i> | PROJECT 0572: <i>JT Service/NV Std Avionics CP/SB</i> |
|---|---|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|------------|------------|--------------|-------------|---------------|
| <p>Received Final Gen5 certification from National Security Agency (NSA) (Aug 2010). Provided Test Assets to Platform Program Offices for Systems Integration Lab (SIL) and regression testing. Continued to develop ancillary equipment in support of Gen5 integration.</p> <p>FY 2011 Plans: Receive Joint Interoperability Testing Center (JITC) certification of the RT-1939(C). Receive approval for Full Rate Production. Continue development of the Tactical Secure Voice (TSV) and JPALS for inclusion in a Gen5 Receiver Transmitter. Assist platforms with Gen5 SIL and aircraft regression testing. Compile test results into source data document for future Gen5 testing.</p> <p>FY 2012 Base Plans: Continue development of the TSV and JPALS. Perform test and evaluation of Version 003/004 software for inclusion into Gen5.</p> | | | | | |
| <p>Title: Develop Ground Terrain Warning Capability (GPWS/TAWS)</p> <p align="right">Articles:</p> <p>Description: This program will conduct research, studies, development, integration, demonstration, test and evaluation efforts to meet Naval Aviation GPWS/TAWS requirements. Perform GPWS/TAWS platform integration studies and activities to determine technical and cost effective solutions across Naval Aviation. Develop GPWS/TAWS Collision Avoidance System (CAS) algorithm tailored to platform performance and missions. Develop simulation models for use at manned flight simulator (MFS) as required for platform tailoring, including procurement of test article hardware for MFS. Evaluate aircraft simulation models for suitability in GPWS/TAWS CAS development effort. Develop GPWS/TAWS CAS algorithms utilizing MFS as real-time hardware and pilot in the loop tool. Develop and evaluate algorithm interfaces necessary for integration of the algorithm within platform host computer.</p> <p>FY 2010 Accomplishments: Completed H-1 GPWS development and delivered to the integrator. Supported integration and lab testing.</p> <p>FY 2011 Plans: Deliver GPWS software load to the fleet for the H-1 and H-60 platforms.</p> <p>FY 2012 Base Plans:</p> | 5.512 0 | 5.419 0 | 1.335 0 | - | 1.335 0 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604215N: <i>Standards Development</i> | PROJECT 0572: <i>JT Service/NV Std Avionics CP/SB</i> |
|---|---|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|--------------|-------------|---------------|
|---|---------|---------|--------------|-------------|---------------|

Support fielding of H-1 GPWS in platform Software Configuration Set 6.0 fleet release. Initiate TAWS development for H-60.

| | | | | | |
|--|--------|--------|--------|---|--------|
| Title: Develop MFOQA Capability | 16.025 | 12.600 | 12.709 | - | 12.709 |
| Articles: | 0 | 0 | 1 | | 1 |

Description: This program will develop a Military Flight Operations Quality Assurance (MFOQA) baseline software integration framework using Government procured software modules to perform functions such as flight data analysis, post mission aircrew debrief, aircraft maintenance and system troubleshooting, and mishap investigation to meet Naval Aviation requirements. Additional efforts will include software development and integration for fleet wide shore based and shipboard MFOQA implementation. Develop and evaluate aircraft recorder systems and requirements to meet current and future MFOQA requirements. Prepare and conduct MFOQA acquisition events such as Systems Readiness Review (SRR), Preliminary Design Review (PDR), Critical Design Review, Developmental Testing (DT), Milestone C (MS C) and follow-on Decision Reviews in support of initial Fixed Wing (Phase 1) and Rotary Wing (Phase 2) platforms.

FY 2010 Accomplishments:
Phase 1 develop software for test.

FY 2011 Plans:
Phase 1 conduct delta design review and conduct DT-B2 and DT-B3.

FY 2012 Base Plans:
Achieve MS C and initiate fielding to F/A-18C/D/E/F and EA-18G. Phase 2 conduct Requirements Development and begin Systems Integration for MH-60R/S and CH-53E.

RDT&E Article (1) for F/A-18 Squadron.

| | | | | | |
|--|-------|-------|-------|---|-------|
| Title: Collaborative Warfare (CW) | 4.983 | 4.051 | 0.478 | - | 0.478 |
| Articles: | 0 | 0 | 0 | | 0 |

Description: The CW component is a Research & Development effort to identify targeting gaps and determine the warfighting benefit of integrating networked capabilities into naval aircraft to fill those gaps. The following efforts are included: 1) A concept refinement Joint Capability Integration Development System activity, specifically, the Naval Effects Cross Domain Targeting (NEXT) Capabilities Based Assessment (CBA). 2) A

UNCLASSIFIED

| | | | | | | | | | | |
|--|--|---|--|---|--|----------------|----------------|---------------------|--------------------|----------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | | | DATE: February 2011 | | | | | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | R-1 ITEM NOMENCLATURE PE 0604215N: <i>Standards Development</i> | | PROJECT 0572: <i>JT Service/NV Std Avionics CP/SB</i> | | | | | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | | | | | | | | | |
| | | | | | | | | | | |
| <p>netted sensors proof of concept prototype demonstration in Trident Warrior exercises. 3) An integration of Netted Sensors/Sensor Fusion into the airborne tactical edge technical study. 4) A Modeling Simulation and Analysis (MS&A) Study to quantify benefits of collaborative warfare capabilities, assess feasibility, and derive initial decomposition to system requirements for use by various platform's Program Objective Memorandum issue sheets.</p> <p>FY 2010 Accomplishments: The NEXT CBA was approved and kicked-off. The Trident Warrior 2011 demonstration is in the planning stages and on schedule. The technical study contract was awarded to L3 and the effort is underway. The MS&A Study was completed for the Counter Air mission area and the results are currently being disseminated.</p> <p>FY 2011 Plans: Complete NEXT CBA. Coordinate execution of Trident Warrior 2011 Netted Sensors demonstration. Complete Netted Sponsor/Sensor Fusion technical study. Incorporating technical study results, develop Netted sensors architectures and complete/update netted sensors Concept of Operations (CONOPS).</p> <p>FY 2012 Base Plans: Complete Netted Sponsor/Sensor Fusion technical study. Incorporating technical study results, develop Netted sensors architectures and complete/update netted sensors CONOPS.</p> | | | | | | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
| <p>Title: CASP</p> <p align="right">Articles:</p> <p>Description: This is a defense directed safety program to develop integrated common avionics enabling hardware and software necessary for predictive collision awareness and avoidance warning for man-made and natural obstacles in the air and on the ground. This program will conduct research, studies, development, integration, test and evaluation, and demonstration efforts to meet collision avoidance requirements. The program includes development of crash survival recording capability for post collision analysis.</p> <p>FY 2011 Plans: Initiate documentation, development, and NSA certification for capability enabling hardware and software components.</p> | | | | | | - | 3.500 0 | - | - | - |
| <p>Title: AvCIP</p> <p align="right">Articles:</p> | | | | | | - | - | 2.000 0 | - | 2.000 0 |

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604215N: <i>Standards Development</i> | PROJECT 0572: <i>JT Service/NV Std Avionics CP/SB</i> |

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|----------------|----------------|---------------------|--------------------|----------------------|
| <p>Description: Investigate High Value Return on Investment Candidates, addressing avionics critical readiness and reliability deficiencies, obsolescence, loss of sustainability and top repair cost drivers. Prioritize critical avionics performance, capability and obsolescence problems that require immediate attention. Pursue solutions to these problems based upon urgency, warfighting contribution and return on investment. Develop and test system solutions based on priority. Resources will cover program management, engineering, contracting and logistics efforts; design and development, logistics elements such as technical data, support equipment, provisioning, and training; prototypes; platform integration; and developmental/operational testing.</p> <p>FY 2012 Base Plans: Address current fleet problem avionics systems (top readiness degraders, cost drivers, obsolescence-driven sustainability, capability loss, fleet head-hurters). They will be chosen following a comprehensive review of most important and executable project submissions. In order to address those issues with more imminent and direct Fleet operational impacts, this review is completed following a formal solicitation and review that is completed mid-year in the year prior to execution. Candidate prioritization and selection are followed by project endorsement which leads to contract award in year of execution.</p> <p>NOTE: FY12-FY16 AvCIP funding has been moved from PE 0702239N, Project Unit 3170.</p> | | | | | |
| <p>Title: ADDS</p> <p align="right">Articles:</p> <p>Description: The Collision Avoidance Safety Program (CASP) Program, which began in FY11 and the follow-on Advanced Digital Data Set (ADDS) program in FY12 was simply a name change and re-distribution of requirements. ADDS consists of enabling hardware and software solutions for an advanced digital data military operating environment including removable memory, secure data management and storage, high speed data transfer, recording (including mission, sensor, audio, and video), crash survivability, maintenance diagnostics as well as mission and safety application processing and protection. It is a system of systems approach that includes the design, development, test, integration and production of test hardware and software to provide advanced digital data management, storage and processing capability. ADDS will increase mission effectiveness and survivability by providing improved situation awareness, reduced crew workload, and enhanced capability for navigation, targeting, collision avoidance, and mission planning.</p> <p>FY 2012 Base Plans:</p> | - | - | 11.079 0 | - | 11.079 0 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604215N: <i>Standards Development</i> | PROJECT 0572: <i>JT Service/NV Std Avionics CP/SB</i> |
|---|---|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|---------|---------|--------------|-------------|---------------|
| Enter DoD Acquisition Lifecycle Management Framework at Milestone B and establish a System Design Specification (SDS) via the SRR process. The SDS will be used for a competitively awarded Engineering Management and Development (EMD) Contract for the design and development of ADDS. FY12 EMD will include all activities required to complete an Integrated Baseline Review, System Functional Review and PDR. | | | | | |
| Accomplishments/Planned Programs Subtotals | 41.480 | 30.961 | 36.862 | - | 36.862 |

C. Other Program Funding Summary (\$ in Millions)

| Line Item | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|-------------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| • APN/05770: <i>Common Avionics</i> | 145.768 | 115.220 | 147.093 | 13.467 | 160.560 | 78.021 | 120.141 | 140.000 | 168.980 | 1,676.993 | 4,456.572 |

D. Acquisition Strategy

AMCD sole-source cost contract for EMD study activities in support of the V-22 Mission Systems Upgrade. CNS/ATM program is a system of systems. The program will encompass the integration of various systems that are currently post-MS III. Systems will be procured utilizing existing contracts for integration on forward-fit and retrofit platforms to provide CNS/ATM functionality. TACCOM is utilizing a firm fixed price contract to Rockwell Collins for research and development of the ARC-210 Gen 5 and other Navy contract vehicles for integration studies. The Navy will integrate systems and components to satisfy platform requirements to achieve tactical communication capability as determined by analyses. GPWS/TAWS software modules will be developed by the existing government software product team. The software modules will be integrated into the platform host computer by the platform's prime integrator. MFOQA Government activities include integrating a combination of existing aircraft hardware, ground support equipment, commercial off the shelf (COTS), government off the shelf hardware and software products. MFOQA program interfaces will be created to share data captured by the automated maintenance systems (e.g., AME, HUMS) and existing databases. The Navy conducted a full and open competition for both the MFOQA software development, integration and support contract as well as the COTS software data analysis product. The CASP is a system of systems and will design, develop and test hardware and software that provides awareness and avoidance warning for man-made and natural obstacles in the air and on the ground. The Navy will award a contract(s) to develop and integrate hardware and software needed to support these capabilities in a military operating environment. GPWS/TAWS software modules will be developed by the existing Government software product team and implemented via sole-source cost contract. The software modules will be integrated into the platform host computer by the platform's prime integrator using platform contract vehicles. AvCIP will annually compete candidate solutions according to criticality of operational contributions, technical risk, return on investment, and breadth of application. OPNAV N88 and N43, NAVAIR, NAVICP and the Fleet will participate in project selection for execution year allocation. The AvCIP Integrated Program Team will monitor project execution and track return on investment using Fleet supply and component performance tracking systems (i.e., Snapshot, Naval Aviation Logistics Command/Management Information System, Naval Aviation Logistics Data Analysis, Logistics Management Data System, Visibility and Management of Operation and Support Cost). Demonstrate Fleet operation/sustainment cost avoidances will be coordinated with N43 Flying Hour Program. Modification solutions include modular hardware, software and material upgrades. Resources will cover program management, engineering, contracting and logistics efforts; design and development, logistics elements such as technical data, support equipment, provisioning, and training; prototypes; platform integration; and DT/operational testing (OT). ADDS will conduct

UNCLASSIFIED

| | |
|--|----------------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | DATE: February 2011 |
|--|----------------------------|

| APPROPRIATION/BUDGET ACTIVITY | R-1 ITEM NOMENCLATURE | PROJECT |
|---|---|---|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | PE 0604215N: <i>Standards Development</i> | 0572: <i>JT Service/NV Std Avionics CP/SB</i> |

a full and open competition to develop and procure enabling hardware and software. ACAS will include a mix of sole source contracts and full and open competitive contracts to provide tailored software algorithms, hardware modifications, and new hardware, as required.

E. Performance Metrics

- AMCD - Successful product redesign of 3 Circuit Card Assemblies of the Advanced Mission Computer (AMC) to sustain AMC production capability through current Program of Record requirements of the Navy's F/A-18E/F and EA-18G aircraft delivery schedules. Specific milestones include: Successful Production Readiness Review with no Priority 1 or 2 problem reports, Function Configuration Audit, and Production Decision.
- JSRC - Provide leadership in support of the Navy's interest to the JSRC tri-service committee promoting commonality and joint programs with focus on interoperability, communications, CNS/ATM, Joint Services avionics obsolescence management and the update of the CAMP. Support and participate in NARG panels, OAG, and HFQMB.
- CNS/ATM - Successfully complete DT/OT and achieve platform certifications.
- TACCOM - Successfully pass Test Readiness Review and First Article Software Verification Test.
- GPWS/TAWS - Successfully complete flight test and deliver product on schedule.
- MFOQA - Successfully complete Design Review capturing revised requirements, and successfully complete MS C on schedule.
- CW - Identify collaborative warfighting capability gaps and ensure the development of the most intelligent, cost effective, and timely solutions to fill those gaps.
- CASP - Initiate requirements development, design, integration, test and NSA Information Assurance.
- AvCIP - Successful selection establishment, and execution of AVCIP projects, with benefits tracking.
- ADDS - Achieve program acquisition milestones on cost and schedule meeting platform requirements.
- ACAS SYSTEM - Reduce the number of mid-air collisions.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604215N: <i>Standards Development</i> | PROJECT 0572: <i>JT Service/NV Std Avionics CP/SB</i> |
|---|---|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Primary Hardware Dev MFOQA | C/CPFF | Mantech:Fairfax, VA | 20.760 | 6.725 | Nov 2010 | 3.419 | Dec 2011 | - | | 3.419 | 14.110 | 45.014 | 45.014 |
| Primary Hardware Dev | C/FFP | BGI:Dallas, TX | 3.490 | 0.491 | Jan 2011 | 1.671 | Feb 2012 | - | | 1.671 | 12.414 | 18.066 | 18.066 |
| Primary Hardware Dev | SS/T&M | DCS Corporation:Alexandria, VA | 6.264 | 1.185 | Nov 2010 | 0.100 | Nov 2011 | - | | 0.100 | 0.000 | 7.549 | 7.549 |
| Primary Hardware Dev ADDS | TBD | TBD:TBD | - | - | | 7.654 | Jan 2012 | - | | 7.654 | Continuing | Continuing | Continuing |
| Primary Hardware Dev | Various | Various:Various | 55.437 | 1.373 | Mar 2011 | 1.415 | Mar 2012 | - | | 1.415 | Continuing | Continuing | Continuing |
| Aircraft Integration | SS/FFP | Rockwell Collins:Cedar Rapids, IA | 57.183 | 0.170 | Nov 2010 | - | | - | | - | 0.000 | 57.353 | 57.353 |
| Aircraft Integration | WR | NAWCWD:China Lake, CA | 7.036 | 0.387 | Nov 2010 | - | | - | | - | Continuing | Continuing | Continuing |
| Aircraft Integration | Various | Various:Various | 40.180 | 1.006 | Mar 2011 | 2.613 | Mar 2012 | - | | 2.613 | Continuing | Continuing | Continuing |
| Systems Engineering | WR | NAWCAD:Patuxent River, MD | 21.640 | 1.113 | Mar 2011 | 2.785 | Nov 2011 | - | | 2.785 | Continuing | Continuing | Continuing |
| Systems Engineering | Various | Various:Various | 30.043 | 3.278 | Mar 2011 | 1.836 | Mar 2012 | - | | 1.836 | Continuing | Continuing | Continuing |
| Prior year costs no longer funded in FYDP | Various | Various:Various | 287.758 | - | | - | | - | | - | 0.000 | 287.758 | |
| Subtotal | | | 529.791 | 15.728 | | 21.493 | | - | | 21.493 | | | |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Development Support | Various | Various:Various | 1.954 | 0.307 | Mar 2011 | 0.253 | Mar 2012 | - | | 0.253 | Continuing | Continuing | Continuing |
| Software Development | Various | Various:Various | 1.975 | - | | 0.770 | Apr 2012 | - | | 0.770 | 0.000 | 2.745 | |
| Integrated Logistics Support | Various | Various:Various | 12.351 | 1.239 | Mar 2011 | 1.677 | Mar 2012 | - | | 1.677 | Continuing | Continuing | Continuing |
| Studies and Analysis | Various | Various:Various | 16.156 | 4.116 | Apr 2011 | - | | - | | - | Continuing | Continuing | Continuing |
| Prior year costs no longer funded in FYDP | Various | Various:Various | 25.371 | - | | - | | - | | - | 0.000 | 25.371 | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604215N: <i>Standards Development</i> | PROJECT 0572: <i>JT Service/NV Std Avionics CP/SB</i> |
|---|---|---|

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Subtotal | | | 57.807 | 5.662 | | 2.700 | | - | | 2.700 | | | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Developmental Test and Evaluation | WR | NAWCAD:Patuxent River, MD | 6.765 | 1.066 | Feb 2011 | 1.650 | Jan 2012 | - | | 1.650 | Continuing | Continuing | Continuing |
| Prior year costs no longer funded in FYDP | Various | Various:Various | 39.111 | - | | - | | - | | - | 0.000 | 39.111 | |
| Subtotal | | | 45.876 | 1.066 | | 1.650 | | - | | 1.650 | | | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Contractor Engineering Support | Various | Various:Various | 49.499 | 2.983 | Feb 2011 | 4.631 | Feb 2012 | - | | 4.631 | Continuing | Continuing | Continuing |
| Government Engineering Support | WR | NAWCAD:Patuxent River, MD | 10.867 | 2.716 | Feb 2011 | 2.543 | Mar 2012 | - | | 2.543 | Continuing | Continuing | Continuing |
| Program Management Support | Various | Various:Various | 8.626 | 0.302 | Dec 2010 | 0.055 | Jan 2012 | - | | 0.055 | 0.000 | 8.983 | |
| Program Management Support | WR | NAWCAD:Patuxent River, MD | 12.567 | 2.394 | Feb 2011 | 3.612 | Mar 2012 | - | | 3.612 | Continuing | Continuing | Continuing |
| Travel | WR | NAVAIR:Patuxent River, MD | 0.904 | 0.110 | Oct 2010 | 0.178 | Oct 2011 | - | | 0.178 | Continuing | Continuing | Continuing |
| Prior year costs no longer funded in FYDP | Various | Various:Various | 12.608 | - | | - | | - | | - | 0.000 | 12.608 | |
| Subtotal | | | 95.071 | 8.505 | | 11.019 | | - | | 11.019 | | | |

UNCLASSIFIED

UNCLASSIFIED

| | | | | | | | | | |
|---|-------------------------------|----------------|---|--------------------|----------------------|---|----------------------------|---------------------------------|--|
| Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy | | | | | | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | R-1 ITEM NOMENCLATURE PE 0604215N: <i>Standards Development</i> | | | PROJECT 0572: <i>JT Service/NV Std Avionics CP/SB</i> | | | |
| | Total Prior Years Cost | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract | |
| Project Cost Totals | 728.545 | 30.961 | 36.862 | - | 36.862 | | | | |

Remarks

UNCLASSIFIED

| | |
|---|---|
| Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604215N: <i>Standards Development</i> |
| PROJECT 0572: <i>JT Service/NV Std Avionics CP/SB</i> | |

| ADVANCED MISSION COMPUTERS AND DISPLAYS (AMCD) | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|---|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q |
| Acquisition Milestones | FCNS | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | OSP3e | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Systems Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test and Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604215N - 0572

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604215N: <i>Standards Development</i> | PROJECT 0572: <i>JT Service/NV Std Avionics CP/SB</i> |
|---|---|---|

| COMMUNICATION, NAVIGATION, SURVEILLANCE/AIR TRAFFIC MGMT (CNS/ATM) | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|--|------------------------|----|-----------------------------|----|----------------------------|----|----|----|------------------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Systems Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test and Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | DT/OT E2D Mode S | | DT/OT E2D RNP RNAV | | DT/OT P-8 RVSM/RNP/RNAV | | | | DT/OT MH-53 ADBS | | | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604215N - 0572

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604215N: <i>Standards Development</i> | PROJECT 0572: <i>JT Service/NV Std Avionics CP/SB</i> |
|---|---|---|

| TACTICAL COMMUNICATIONS (TACCOM) | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|-------------------------------------|-----------------------------|----|------------|-------------|---------------|----|----|----|-------------|-------------|----|----|---------|-------------|-----------------|----|---------|-------------|----|----|-----------------------|-------------|----|----|---------|----|----|----|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Systems Development | Req & Design | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | GEN 5 NSA IA | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | SATCOM P3I H/W | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | IW SATCOM S/W Development | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Crypto Algorithm Assess/Dev | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | SATCOM P3I S/W Assess/Dev | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | JPALS S/W Integration | | | | | | | |
| Test and Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Bench Test SVT ▼ | | NSA Cert ▼ | JITC Cert ▼ | | | | | JITC Cert ▼ | NSA Cert ▼ | | | | | JITC/NSA Cert ▼ | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | Prod Starts ▼ | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | S/W Rel 2 ▼ | | | | | S/W Rel 3 ▼ | | | | S/W Rel 4 ▼ | | | | S/W Rel 5 ▼ | | | | S/W Rel 6 ▼ | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604215N - 0572

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604215N: <i>Standards Development</i> | PROJECT 0572: <i>JT Service/NV Std Avionics CP/SB</i> |
|---|---|---|

| GROUND PROXIMITY WARNING SYSTEM/TERRAIN AWARENESS WARNING SYSTEM (GPWS/TAWS) | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | | | | | |
|--|---------|----|----|----|---------|----|-----------------|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|--|--|--|-----------------|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | | | | |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Milestones | | | | | | | H-60 GPWS IOC ▲ | | | | | | | | | | | | | | | | | | | | | | | | | H-60 TAWS IOC ▲ |
| Systems Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Developmental Testing | | | | | | | H-1 DT ▼ | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operational Testing | | | | | | | H-1 OT ▼ | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604215N - 0572

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604215N: *Standards Development*

PROJECT

0572: *JT Service/NV Std Avionics CP/SB*

| MILITARY FLIGHT OPERATION QUALITY ASSURANCE (MFOQA) | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | | | | | |
|--|-----------------|---------------------|----|---------------|---------|----|-----------------|-----------------|---------------------------------|--------------------------------|----|----|------------|----|-----------------------------|----|---------|----|----|----|---|----|----|----|----------------------------|----|----|----|--|--|--|--|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | | | | |
| Acquisition Milestones | | | | | | | | | MS C ▲ | | | | | | | | | | | | MH-60R/S & CH-53E Fielding Decision ◆ | | | | | | | | | | | |
| Systems Development | | | | | | | | | MH-60R/S & CH-53E Req Dev | MH-60R/S & CH-53E Sys Integ | | | | | | | | | | | | | | | | | | | | | | |
| Software Development | | F/A-18 SW Rework | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reviews | | | | F/A-18 DDR | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Development Contract Awards | | | | ■ | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Flight Visualization and Data Analysis (FVDA) S/W Modules | OPT 2 ● | | | OPT 3 ● | | | | | OPT 4 ● | | | | CA ● | | | | | | | | OPT 1 ● | | | | | | | | | | | |
| Product Team | OPT 3 ● | | | OPT 4 ● | | | | | CA ● | | | | OPT 1 ● | | | | | | | | OPT 2 ● | | | | | | | | | | | |
| Test and Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F/A-18 Testing | F/A-18 DT-B1 | | | | | | F/A-18 DT-B2 | F/A-18 DT-B3 | | | | | | | | | | | | | | | | | | | | | | | | |
| Reviews | | | | F/A-18 TRR | | | F/A-18 TRR2 | | | | | | | | | | | | | | | | | | | | | | | | | |
| MH-53R/S & CH-53E Testing | | | | | | | | | | | | | | | | | | | | | MH-60R/S & CH-53E DT-D1 | | | | | | | | | | | |
| Reviews | | | | | | | | | | | | | | | MH-60R/S & CH-53E TRR | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Fielding | | | | | | | | | F/A-18 Fielding | | | | | | | | | | | | | | | | | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | MH-60R/S & CH-53E Fielding | | | | | | | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604215N: *Standards Development*

PROJECT

0572: *JT Service/NV Std Avionics CP/SB*

| COLLABORATIVE WARFARE (CW) | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|---|--|----|----|-----------------|---------|----|----------------------------|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| JCIDS Activities | NEXT CBA | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Netted Sensors CONOPS, Standards and Architectures/Requirements Development | CONOPS, Standards and Architectures/Requirements Development | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Netted Sensors Demonstrations | Netted Sensors Demo | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Capabilities-Based Assessment | | | | CBA Signed ▼ | | | | | | | | | | | | | | | | | | | | | | | | |
| Systems Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Experimentation | | | | | | | Trident Warrior 11 ▼ | | | | | | | | | | | | | | | | | | | | | |
| Test and Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604215N - 0572

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604215N: <i>Standards Development</i> | PROJECT 0572: <i>JT Service/NV Std Avionics CP/SB</i> |

| AVIONICS COMPONENT IMPROVEMENT PROGRAM (AVCIP) | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|--|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Funding Allocation | | | | | | | | | | ▼ | | | | | ▼ | | | | | | ▼ | | | | | | | ▼ |
| Candidate Collection | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Candidate Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Candidate Prioritization and Selection | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Candidate Endorsement | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contract Establishment | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604215N - 0572

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604215N: <i>Standards Development</i> | PROJECT 0572: <i>JT Service/NV Std Avionics CP/SB</i> |
|---|---|---|

| COLLISION AVOIDANCE SAFETY PROGRAM (CASP) | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|---|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| System Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Requirements Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Design/Integration/Certification Activities | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NSA IA | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test and Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604215N - 0572

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604215N: *Standards Development*

PROJECT

0572: *JT Service/NV Std Avionics CP/SB*

| ADVANCED DIGITAL DATA SET (ADDS) | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|----------------------------------|---------|----|----|----|---------|----|----|--------|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Milestones | | | | | | | | MS B ▲ | | | | | | | | | | | | | | | | | | | | |
| Systems Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EMD CA ● | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reviews | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NSA Information Assurance | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SRR/SFR/PDR ■ | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CDR ■ | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TRR ■ | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TRA ■ | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SVR/FCA/PRR ▼ | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PCA ▼ | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test and Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Developmental Testing | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contract Awards | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LRIP CA ● | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FRP CA ● | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604215N - 0572

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604215N: <i>Standards Development</i> | PROJECT 0572: <i>JT Service/NV Std Avionics CP/SB</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| ADVANCED MISSION COMPUTERS AND DISPLAYS (AMCD) | | | | |
| Acquisition Milestones: FCNS Network Processor Risk Reduction T/S | 1 | 2010 | 1 | 2011 |
| Acquisition Milestones: OSP3e Roadmap Risk Reduction T/S | 1 | 2010 | 1 | 2011 |
| COMMUNICATION, NAVIGATION, SURVEILLANCE/AIR TRAFFIC MGMT (CNS/ATM) | | | | |
| Test and Evaluation: E-2D Integration/Certification Mode S , 8.33 KHZ | 1 | 2010 | 2 | 2010 |
| Test and Evaluation: E-2D Integration/Certification RNP RNAV | 3 | 2010 | 4 | 2010 |
| Test and Evaluation: P-8 Integration/Certification Reduced Vertical Separation Minimums, Required Navigation Performance (RNP RNAV) | 1 | 2011 | 3 | 2011 |
| Test and Evaluation: MH-53E Automatic Dependent Surveillance-Broadcast Integration/Certification | 1 | 2012 | 1 | 2013 |
| TACTICAL COMMUNICATIONS (TACCOM) | | | | |
| Systems Development: GEN 5 RT-1939 Development | 1 | 2010 | 4 | 2010 |
| Systems Development: GEN 5 NSA/Information Assurance (IA) | 1 | 2010 | 4 | 2010 |
| Systems Development: GEN 5 Hardware Development for SATCOM P3I | 1 | 2010 | 1 | 2011 |
| Systems Development: GEN 5 Integrated Waveform Satellite Communications (SATCOM) S/W Development | 1 | 2010 | 1 | 2012 |
| Systems Development: GEN 5 Crypto Algorithm Assessment/Development | 1 | 2010 | 1 | 2013 |
| Systems Development: GEN 5 SATCOM P3I S/W Assessment/Development | 1 | 2012 | 4 | 2015 |
| Systems Development: Joint Precision Approach Landing System (S/W) Integration | 4 | 2015 | 4 | 2016 |
| Test and Evaluation: GEN 5 First Article Test & Software (S/W) Verification | 3 | 2010 | 3 | 2010 |
| Test and Evaluation: GEN 5 National Security Agency Certification | 4 | 2010 | 4 | 2010 |
| Test and Evaluation: GEN 5 Joint Interoperability Test Command Certification (JITC) | 1 | 2011 | 1 | 2011 |
| Test and Evaluation: GEN 5 JTIC Certification1 | 1 | 2012 | 1 | 2012 |

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604215N: <i>Standards Development</i> | PROJECT 0572: <i>JT Service/NV Std Avionics CP/SB</i> |

| Events by Sub Project | Start | | End | |
|---|----------------|-------------|----------------|-------------|
| | Quarter | Year | Quarter | Year |
| Test and Evaluation: GEN 5 JTIC Certification2 | 4 | 2014 | 4 | 2014 |
| Test and Evaluation: GEN 5 National Security Agency (NSA) Certification1 | 4 | 2012 | 4 | 2012 |
| Production Milestones: GEN 5 Production Starts | 2 | 2011 | 2 | 2011 |
| Production Milestones: GEN 5 Evolution (Evol) S/W Releases 2 | 2 | 2011 | 2 | 2011 |
| Production Milestones: GEN 5 Evol S/W Releases 3 | 3 | 2012 | 3 | 2012 |
| Production Milestones: GEN 5 Evol S/W Releases 4 | 3 | 2013 | 3 | 2013 |
| Production Milestones: GEN 5 Evol S/W Releases 5 | 1 | 2015 | 1 | 2015 |
| Production Milestones: GEN 5 Evol S/W Releases 6 | 2 | 2016 | 2 | 2016 |
| GROUND PROXIMITY WARNING SYSTEM/TERRAIN AWARENESS WARNING SYSTEM (GPWS/TAWS) | | | | |
| Acquisition Milestones: Milestones: H-60 GPWS IOC | 3 | 2011 | 3 | 2011 |
| Acquisition Milestones: Milestones: H-1 GPWS IOC | 3 | 2011 | 3 | 2011 |
| Acquisition Milestones: Milestones: H-60 TAWS IOC | 3 | 2016 | 3 | 2016 |
| Systems Development: H-1 Government S/W Development | 1 | 2010 | 3 | 2010 |
| Systems Development: H-60 TAWS Obstacles Government Software Development | 1 | 2012 | 2 | 2014 |
| Test and Evaluation: Developmental Testing: H-1 Developmental Testing (DT) | 1 | 2011 | 1 | 2011 |
| Test and Evaluation: Developmental Testing: H-60 TAWS Obstacles DT | 3 | 2014 | 1 | 2015 |
| Test and Evaluation: Operational Testing: H-1 Operational Testing (OT) | 2 | 2011 | 2 | 2011 |
| Test and Evaluation: Operational Testing: H-60 TAWS Obstacles OT | 2 | 2016 | 3 | 2016 |
| MILITARY FLIGHT OPERATION QUALITY ASSURANCE (MFOQA) | | | | |
| Acquisition Milestones: Milestones: Milestone C (MS C) | 1 | 2012 | 1 | 2012 |
| Acquisition Milestones: Milestones: IOC | 1 | 2012 | 1 | 2012 |
| Acquisition Milestones: Milestones: MH-60R/S & CH-53E Fielding Decision | 2 | 2014 | 2 | 2014 |
| Systems Development: Software Development: F/A-18 Software Rework | 2 | 2010 | 1 | 2011 |

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604215N: <i>Standards Development</i> | PROJECT 0572: <i>JT Service/NV Std Avionics CP/SB</i> |

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Systems Development: Software Development: MH-60R/S & CH-53E Requirements Development | 1 | 2012 | 2 | 2012 |
| Systems Development: Software Development: MH-60R/S & CH-53E Systems Integration | 3 | 2012 | 3 | 2013 |
| Systems Development: Reviews: F/A-18 Delta Design Review | 1 | 2011 | 1 | 2011 |
| Systems Development: Flight Visualization and Data Analysis (FVDA) S/W Modules: Flight Visualization and Data Analysis (FVDA) S/W Modules OPT2 | 1 | 2010 | 1 | 2010 |
| Systems Development: Flight Visualization and Data Analysis (FVDA) S/W Modules: FVDA S/W Modules OPT3 | 1 | 2011 | 1 | 2011 |
| Systems Development: Flight Visualization and Data Analysis (FVDA) S/W Modules: FVDA S/W Modules OPT4 | 1 | 2012 | 1 | 2012 |
| Systems Development: Flight Visualization and Data Analysis (FVDA) S/W Modules: FVDA S/W Modules Contract Award RDTEN | 1 | 2013 | 1 | 2013 |
| Systems Development: Flight Visualization and Data Analysis (FVDA) S/W Modules: FVDA S/W Modules OPT1 | 1 | 2014 | 1 | 2014 |
| Systems Development: Product Team: Product Team OPT3 | 1 | 2010 | 1 | 2010 |
| Systems Development: Product Team: Product Team OPT4 | 1 | 2011 | 1 | 2011 |
| Systems Development: Product Team: Product Team Contract Award RDT&EN | 1 | 2012 | 1 | 2012 |
| Systems Development: Product Team: Product Team OPT1 | 1 | 2013 | 1 | 2013 |
| Systems Development: Product Team: Product Team OPT2 | 1 | 2014 | 1 | 2014 |
| Test and Evaluation: F/A-18 Testing: F/A-18 DT-B1 | 1 | 2010 | 1 | 2010 |
| Test and Evaluation: F/A-18 Testing: F/A-18 DT-B2 | 2 | 2011 | 3 | 2011 |
| Test and Evaluation: F/A-18 Testing: F/A-18 DT-B3 | 4 | 2011 | 1 | 2012 |
| Test and Evaluation: Reviews: F/A-18 Test Readiness Review (TRR)1 | 1 | 2011 | 1 | 2011 |
| Test and Evaluation: Reviews: F/A-18 TRR2 | 3 | 2011 | 3 | 2011 |
| Test and Evaluation: MH-53R/S & CH-53E Testing: MH-60R/S & CH-53E DT-D1 | 4 | 2013 | 2 | 2014 |

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604215N: <i>Standards Development</i> | PROJECT 0572: <i>JT Service/NV Std Avionics CP/SB</i> |

| Events by Sub Project | Start | | End | |
|---|----------------|-------------|----------------|-------------|
| | Quarter | Year | Quarter | Year |
| Test and Evaluation: Reviews: MH-60R/S & CH-53E TRR | 3 | 2013 | 3 | 2013 |
| Production Milestones: Production Fielding: F/A-18 Fielding | 1 | 2012 | 4 | 2015 |
| Production Milestones: Production Fielding: MH-60R/S & CH-53E Fielding | 3 | 2014 | 4 | 2016 |
| Production Milestones: F/A-18: 1 Squadron R&D/ 7 Squadrons APN | 1 | 2012 | 4 | 2012 |
| Production Milestones: F/A-18: 16 Squadrons APN | 1 | 2013 | 4 | 2013 |
| Production Milestones: F/A-18: 19 Squadrons APN | 1 | 2014 | 4 | 2014 |
| Production Milestones: F/A-18: 21 Squadrons APN | 1 | 2015 | 4 | 2015 |
| Production Milestones: H-60R/S: 1 Squadron R&D | 1 | 2014 | 4 | 2014 |
| Production Milestones: H-60R/S: 6 Squadrons APN | 1 | 2015 | 4 | 2015 |
| Production Milestones: H-60R/S: 19 Squadrons APN | 1 | 2016 | 4 | 2016 |
| Production Milestones: CH-53E: 1 Squadron R&D | 1 | 2014 | 4 | 2014 |
| Production Milestones: CH-53E: 5 Squadrons APN 1 | 1 | 2015 | 4 | 2015 |
| Production Milestones: CH-53E: 5 Squadrons APN 2 | 1 | 2016 | 4 | 2016 |
| COLLABORATIVE WARFARE (CW) | | | | |
| Acquisition Milestones: JCIDS Activities: Joint Capability Integration Development System Activities | 2 | 2010 | 1 | 2011 |
| Acquisition Milestones: Netted Sensors CONOPS, Standards and Architectures/ Requirements Development: Netted Sensors CONOPS, Standards, and Architectures/ Requirements Development | 2 | 2010 | 4 | 2016 |
| Acquisition Milestones: Netted Sensors Demonstrations: Netted Sensors Demonstrations | 3 | 2010 | 4 | 2011 |
| Acquisition Milestones: Capabilities-Based Assessment: Capabilities-Based Assessment | 1 | 2011 | 1 | 2011 |
| Systems Development: Experimentation: TRIDENT WARRIOR 11 | 3 | 2011 | 3 | 2011 |
| AVIONICS COMPONENT IMPROVEMENT PROGRAM (AVCIP) | | | | |

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604215N: <i>Standards Development</i> | PROJECT 0572: <i>JT Service/NV Std Avionics CP/SB</i> |

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Acquisition Milestones: Funding Allocation: -Funding Allocation | 1 | 2012 | 1 | 2012 |
| Acquisition Milestones: Funding Allocation: -Funding Allocation1 | 1 | 2013 | 1 | 2013 |
| Acquisition Milestones: Funding Allocation: -Funding Allocation2 | 1 | 2014 | 1 | 2014 |
| Acquisition Milestones: Funding Allocation: -Funding Allocation3 | 1 | 2015 | 1 | 2015 |
| Acquisition Milestones: Funding Allocation: -Funding Allocation4 | 1 | 2016 | 1 | 2016 |
| Acquisition Milestones: Candidate Collection: -Candidate Collection | 1 | 2012 | 2 | 2012 |
| Acquisition Milestones: Candidate Collection: -Candidate Collection1 | 1 | 2013 | 2 | 2013 |
| Acquisition Milestones: Candidate Collection: -Candidate Collection2 | 1 | 2014 | 2 | 2014 |
| Acquisition Milestones: Candidate Collection: -Candidate Collection3 | 1 | 2015 | 2 | 2015 |
| Acquisition Milestones: Candidate Collection: -Candidate Collection4 | 1 | 2016 | 2 | 2016 |
| Acquisition Milestones: Candidate Evaluation: -Candidate Evaluation | 2 | 2012 | 3 | 2012 |
| Acquisition Milestones: Candidate Evaluation: -Candidate Evaluation1 | 2 | 2013 | 3 | 2013 |
| Acquisition Milestones: Candidate Evaluation: -Candidate Evaluation2 | 2 | 2014 | 3 | 2014 |
| Acquisition Milestones: Candidate Evaluation: -Candidate Evaluation3 | 2 | 2015 | 3 | 2015 |
| Acquisition Milestones: Candidate Evaluation: -Candidate Evaluation4 | 2 | 2016 | 3 | 2016 |
| Acquisition Milestones: Candidate Prioritization and Selection: -Candidate Prioritization and Selection | 3 | 2012 | 3 | 2012 |
| Acquisition Milestones: Candidate Prioritization and Selection: -Candidate Prioritization and Selection1 | 3 | 2013 | 3 | 2013 |
| Acquisition Milestones: Candidate Prioritization and Selection: -Candidate Prioritization and Selection2 | 3 | 2014 | 3 | 2014 |
| Acquisition Milestones: Candidate Prioritization and Selection: -Candidate Prioritization and Selection3 | 3 | 2015 | 3 | 2015 |
| Acquisition Milestones: Candidate Prioritization and Selection: -Candidate Prioritization and Selection4 | 3 | 2016 | 3 | 2016 |

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604215N: <i>Standards Development</i> | PROJECT 0572: <i>JT Service/NV Std Avionics CP/SB</i> |

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Acquisition Milestones: Candidate Endorsement: -Candidate Endorsement | 3 | 2012 | 3 | 2012 |
| Acquisition Milestones: Candidate Endorsement: -Candidate Endorsement1 | 3 | 2013 | 3 | 2013 |
| Acquisition Milestones: Candidate Endorsement: -Candidate Endorsement2 | 3 | 2014 | 3 | 2014 |
| Acquisition Milestones: Candidate Endorsement: -Candidate Endorsement3 | 3 | 2015 | 3 | 2015 |
| Acquisition Milestones: Candidate Endorsement: -Candidate Endorsement4 | 3 | 2016 | 3 | 2016 |
| Acquisition Milestones: Contract Establishment: -Contract Establishment | 3 | 2012 | 4 | 2012 |
| Acquisition Milestones: Contract Establishment: -Contract Establishment1 | 3 | 2013 | 4 | 2013 |
| Acquisition Milestones: Contract Establishment: -Contract Establishment2 | 3 | 2014 | 4 | 2014 |
| Acquisition Milestones: Contract Establishment: -Contract Establishment3 | 3 | 2015 | 4 | 2015 |
| Acquisition Milestones: Contract Establishment: -Contract Establishment4 | 3 | 2016 | 4 | 2016 |
| COLLISION AVOIDANCE SAFETY PROGRAM (CASP) | | | | |
| System Development: Requirements Development: CASP Requirement Development Capabilities Development Document | 1 | 2011 | 4 | 2011 |
| System Development: Design/Integration/Certification Activities: CASP Design/Integrate/Certification Activities | 1 | 2011 | 4 | 2011 |
| System Development: NSA IA: CASP NSA IA | 1 | 2011 | 4 | 2011 |
| ADVANCED DIGITAL DATA SET (ADDS) | | | | |
| Acquisition Milestones: Milestones: Milestone B | 1 | 2012 | 1 | 2012 |
| Acquisition Milestones: Milestones: Milestone C | 1 | 2015 | 1 | 2015 |
| Systems Development: Engineering & Management Development Contract Award | 1 | 2012 | 1 | 2012 |
| Systems Development: NSA Information Assurance | 1 | 2012 | 3 | 2014 |
| Systems Development: Reviews: System Requirements Review/System Functional Review | 3 | 2012 | 3 | 2012 |
| Systems Development: Reviews: Preliminary Design Review | 4 | 2012 | 4 | 2012 |
| Systems Development: Reviews: Critical Design Review | 2 | 2013 | 2 | 2013 |

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604215N: <i>Standards Development</i> | PROJECT 0572: <i>JT Service/NV Std Avionics CP/SB</i> |

| Events by Sub Project | Start | | End | |
|--|----------------|-------------|----------------|-------------|
| | Quarter | Year | Quarter | Year |
| Systems Development: Reviews: Test Readiness Review | 2 | 2014 | 2 | 2014 |
| Systems Development: Reviews: Test Readiness Assessment | 3 | 2014 | 3 | 2014 |
| Systems Development: Reviews: System Verification Review/Functional Configuration Audit/Program Readiness Review | 3 | 2014 | 3 | 2014 |
| Systems Development: Reviews: Physical Configuration Audit | 1 | 2016 | 1 | 2016 |
| Test and Evaluation: Developmental Testing | 1 | 2014 | 1 | 2016 |
| Production Milestones: Contract Awards: Low Rate Initial Production Contract Award | 1 | 2015 | 1 | 2015 |
| Production Milestones: Contract Awards: Full Rate Production Award Contract Award | 2 | 2016 | 2 | 2016 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604215N: <i>Standards Development</i> | PROJECT 1857: <i>Calibration Standards</i> |
|---|---|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|------------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 1857: <i>Calibration Standards</i> | 1.910 | 1.401 | 1.365 | - | 1.365 | 1.877 | 1.908 | 1.950 | 1.992 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Project 1857, Calibration Standards: This project is a Navy-wide program to develop required calibration standards (hardware) in all major measurement technology areas in support of Navy Hull, Mechanical and Electrical systems as well as Navy Weapons systems, ground and air, throughout the Fleet. It funds Navy lead-service responsibilities in the DOD and Joint Services Meteorology Research and Development program. This project supports the military requirement to verify the performance of all test systems used to validate the operation of Navy Hull, Mechanical and Electrical as well as Navy Weapon Systems with calibration standards traceable to the National Institute of Standards and Technology.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|--------------|-------------|---------------|
| Title: Calibration Standards | 1.910 | 1.401 | 1.365 | - | 1.365 |
| Articles: | 0 | 0 | 0 | | 0 |
| FY 2010 Accomplishments: | | | | | |
| (\$1.182) Begin development of 3 new calibration standards in support of chemical biological detection systems. | | | | | |
| (\$.300) Begin development of standards in support for wireless micro electrical mechanical sensors in support of the next generation DD(X) ships and Smart Carriers. | | | | | |
| (\$.428) Complete (1) calibration standard hardware in support of chemical and biological systems and (1) high power laser attenuator in support of optical tests. | | | | | |
| FY 2011 Plans: | | | | | |
| (\$.940) Continue development of calibration standards (hardware) in support of chemical and biological detection systems. | | | | | |
| (\$.252) Begin development of portable calibration standards in support of Fleet for in-situ wireless closed loop calibrations on board naval ships. | | | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604215N: <i>Standards Development</i> | PROJECT 1857: <i>Calibration Standards</i> |
|---|---|--|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|--------------|-------------|---------------|
| (\$.209) Continue development of standards in support for wireless micro electrical sensors in support of next generation DD(X) ships and Smart Carriers. <i>FY 2012 Base Plans:</i> (\$.700) Complete development of calibration standards (hardware) in support of chemical and biological detection systems (Chemical Warfare Agent detectors). (\$.320) Continue development of portable calibration standards in support of Fleet for in-situ wireless closed loop calibrations on board naval ships. (\$.345) Continue development of standards in support for wireless micro electrical sensors in support of next generation DD(X) ships and Smart Carriers. | | | | | |
| Accomplishments/Planned Programs Subtotals | 1.910 | 1.401 | 1.365 | - | 1.365 |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

Funds being sent to NSWC Corona to initiate the research and development of projects in the technology areas of Physical/Mechanical, Microwave/Millimeter-Wave, Electro-Optics, and Nuclear, Biological and Chemical for the purpose of ensuring measurement accuracy in combat systems of new advance technology and current weapon systems and associated test equipment. Efforts will provide for more cost effective and efficient system measurements for performing maintenance and calibration and reduce wrong test decisions that will result in lower maintenance costs and higher system performance reliability.

E. Performance Metrics

The US Navy Metrology RDT&E program will transition 4 current projects within the next 12 months in the technology areas of, Physical/Mechanical, Nuclear, Biological and Chemical consisting new hardware calibration standards and capabilities. Within the next 12 months, develop and transition 3 current and 2 new Electro Optics measurement standards (Hardware). Will initiate the research and development of 7 new and 5 continuing projects in the technology areas of Physical/Mechanical, Microwave/Millimeter-Wave, Electro-Optics, and Nuclear, Biological and Chemical for the purpose of ensuring measurement accuracy in combat systems of new advance technology and current weapon systems and associated test equipment. Efforts will provide for more cost effective and efficient system measurements for performing maintenance and calibration and reduce wrong test decisions that will result in lower maintenance costs and higher system performance reliability. Success measures will be articulated through program goals and a Balance Scorecard Strategy System.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604215N: <i>Standards Development</i> | PROJECT 1857: <i>Calibration Standards</i> |
|---|---|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| Primary Hardware Development | WR | NSWC Corona:Corona, CA | 3.330 | 0.851 | Oct 2010 | 0.700 | Oct 2011 | - | | 0.700 | 0.000 | 4.881 | |
| Subtotal | | | 3.330 | 0.851 | | 0.700 | | - | | 0.700 | 0.000 | 4.881 | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| Contractor Engineering Support | WR | NSWC Corona:Corona, CA | 1.067 | 0.209 | Oct 2010 | 0.300 | Oct 2011 | - | | 0.300 | 0.000 | 1.576 | |
| Government Engineering Support | WR | NSWC Corona:Corona, CA | 1.849 | 0.321 | Oct 2010 | 0.325 | Oct 2011 | - | | 0.325 | 0.000 | 2.495 | |
| Defense Acquisition Workforce | Various | Various:Various | 0.007 | - | | - | | - | | - | 0.000 | 0.007 | |
| Travel | WR | NSWC Corona:Corona, CA | 0.058 | 0.020 | Oct 2010 | 0.040 | Oct 2011 | - | | 0.040 | 0.000 | 0.118 | |
| Subtotal | | | 2.981 | 0.550 | | 0.665 | | - | | 0.665 | 0.000 | 4.196 | |

| | Total Prior Years Cost | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract | |
|----------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|-------|
| | | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | | |
| Project Cost Totals | | 6.311 | 1.401 | | | 1.365 | | - | | 1.365 | 0.000 | 9.077 |

Remarks

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604215N: <i>Standards Development</i> | PROJECT 1857: <i>Calibration Standards</i> |

| FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|
| 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |

| | |
|--|------------|
| Proj 1857 | |
| Chemical Biological Detection Systems development | [REDACTED] |
| Wireless micro Electrical Mechanical Sensors development | [REDACTED] |
| In-situ Wireless Closed Loop Calibrations development | [REDACTED] |

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604215N: <i>Standards Development</i> | PROJECT 1857: <i>Calibration Standards</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| <i>Proj 1857</i> | | | | |
| Chemical Biological Detection Systems development | 1 | 2010 | 4 | 2012 |
| Wireless micro Electrical Mechanical Sensors development | 1 | 2010 | 4 | 2014 |
| In-situ Wireless Closed Loop Calibrations development | 1 | 2011 | 4 | 2015 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604215N: <i>Standards Development</i> | PROJECT 2311: <i>Stores Planning and Weaponing Module</i> |
|---|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 2311: <i>Stores Planning and Weaponing Module</i> | 11.986 | 12.377 | 12.075 | - | 12.075 | 12.589 | 12.686 | 12.939 | 13.064 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Project 2311, Stores Planning and Weaponing Module: The Naval Aircraft Weaponing Components (NAWC) project, now referred to as the Weaponing and Stores Planning (WASP) components, are integrated software products that allow aircrew to determine the best combinations of weapons and delivery conditions to achieve the desired level of target damage, eliminate weapon delivery solutions that violate aircraft Type/Model/Series (T/M/S) specific safety-of-flight envelopes, and perform detailed weapons employment planning. WASP is approved by Air Warfare Division (N88) as a flight clearance implementation system for the F/A-18 A, A+, B, C, D, D (RC), E and F. WASP components will alert pilots if their planned weapon release conditions meet flight clearance limits, will result in bomb-to-bomb collisions, bomb-to-aircraft collisions, aircraft overstress, or excessive risk of aircraft loss/damage in the event of fuze early bursts. Weapon employment planning is fundamental to the Joint Capability Area (JCA) of Force Application and joint mission areas of Strike and Amphibious Warfare. WASP provides the Navy and Marine Corp with weaponing capabilities that are critical requirements for Interdiction, Armed Reconnaissance (RECCE) and Close Air Support mission planning. Therefore WASP product availability is critical to successful employment of the Joint Mission Planning System (JMPS) for the F/A-18 A-F. The WASP product encompasses a multitude of Government-Off-The-Shelf (GOTS) and Commercial-Off-The-Shelf (COTS) software components and tools (aircraft target maneuver simulations, weapon flyout models, target probability of damage calculators). WASP products will require updates as emergent requirements for new aircraft T/M/S, stores and weapons are approved by N88, and new flight clearances and flight restrictions are issued by Naval Air Systems Command Headquarters (NAVAIRSYSCOM).

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|---------|---------|--------------|-------------|---------------|
| Title: Product Development | 6.224 | 7.456 | 6.597 | - | 6.597 |
| Articles: | 0 | 0 | 0 | | 0 |
| Description: Includes associated system engineering design, development, installation, integration and software development for WASP components V1.2, V1.2.2, V1.2.3, V1.2.4, V3.0, V3.1 to support F/A-18 A-F. NAWCWD, JSSA (Joint Software Support Activity) will develop and maintain the AV-8B Weapons and Release Planning (WARP) tool using \$.3M in FY10, \$1M in FY11 and .4M in FY12. Define requirements to integrate WASP components into the Joint Mission Planning System (JMPS). Provide domain engineering support for weapons separation, aircraft loads, flutter, fuzing and safe escape for application to WASP. Provide government Joint Munitions Effectiveness Manual (JMEM) engineering support (JMEM Subject Matter Experts) for integration of new JMEM capabilities into WASP. Provide analysis of new requirements, allocation of requirements, design oversight, and life cycle management of the WASP program. Develop new aircraft configuration, aircraft loading, weapon optimization, store release and delivery planning components for F/A-18 | | | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604215N: <i>Standards Development</i> | PROJECT 2311: <i>Stores Planning and Weaponing Module</i> |
|---|---|---|

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|------------|------------|--------------|-------------|---------------|
| <p>A-F new flight clearances and flight restrictions issued by NAVAIRSYSCOM. Provide configuration management, system administration, quality assurance, documentation, metrics and software risk management for WASP. Acquire, integrate and modify numerous GOTS/COTS software components and tools (aircraft target maneuver simulations, weapon flyout models, target probability of damage calculators, etc.) that are used as GFI for the WASP software development. Integrate WASP with Joint Standoff Weapon/Joint Direct Attack Munitions/ Standoff Land-Attack Missile - Expanded Response and other weapons mission planning systems as required.</p> <p>FY 2010 Accomplishments: Complete and release WASP V 1.2.3 to fleet. \$.3M funding provided to NAWCWD, JSSA for WARP product development.</p> <p>FY 2011 Plans: Complete WASP V1.2.4 for FY12 release to fleet and analyze requirements for WASP V3.0. \$1M funding provided to NAWCWD, JSSA for WARP product development.</p> <p>FY 2012 Base Plans: Release V1.2.4 to the fleet 1QFY12. Start development of V3.0. Provide .7M of funding to NAWCWD, JSSA for WARP product development.</p> | | | | | |
| <p>Title: Test and Evaluation (T&E)</p> <p align="right">Articles:</p> <p>Description: Provide test and evaluation for unit and system level testing; functional qualification testing; safety of flight certification testing; integration and standards compliance testing for WASP versions V1.2, V1.2.2, V1.2.3 WASP V3.0, and V3.1. Provide Test & Evaluation (T&E) support for guided weapons and Joint Munitions Effectiveness Manual (JMEM) accreditation. Provide JMPS Mission Planning Environment (MPE) Integration test support. Provide testing and test support to ensure all (to include internally developed software, externally developed GOTS components and COTS products) complies with Department of Navy (DoN) and Department of Defense (DoD) software mandates and directives. These include Integrated Shipboard Network System IT-21, DoD Information Assurance Certification and Accreditation Process, Navy Marine Corps Intranet (NMCI) and DoD Information Technology Portfolio Repository. All Fleet released software must comply with DoN and DoD software directives or will not be allowed to run on ship Local Area Networks (LANs) or NMCI.</p> <p>FY 2010 Accomplishments:</p> | 4.314 0 | 2.128 0 | 2.669 0 | - | 2.669 0 |

UNCLASSIFIED

| | |
|--|----------------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | DATE: February 2011 |
|--|----------------------------|

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604215N: <i>Standards Development</i> | PROJECT 2311: <i>Stores Planning and Weaponering Module</i> |
|---|---|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|------------|------------|--------------|-------------|---------------|
| Continue test and evaluation of WASP V 1.2.3 in order to release to the fleet. FY 2011 Plans: Continue test and evaluation of WASP V 1.2.4 in order to release to fleet and analyze test requirements for WASP V3.0. FY 2012 Base Plans: Complete test and evaluation of WASP V3.0 in order to release to fleet in FY13. Analyze test requirements for V3.1. | | | | | |
| Title: Program Management/Systems Engineering Articles: | 1.448 0 | 2.793 0 | 2.809 0 | - | 2.809 0 |
| Description: Provide program management and systems engineering support, which includes requirements definition and analysis, compliance with NAVAIR systems engineering technical review processes, WASP acquisition documentation development and support, cost, schedule and performance management, contracting support (providing contract administration, preparing contract packages for award), compliance with external directives and providing financial support (accept, obligate, commit, and track funding). Provide travel for WASP Government personnel. Continue performing project management support for this program throughout the Future Years Development Plan (FYDP). | | | | | |
| FY 2010 Accomplishments: Continue project management support to the WASP for future releases of WASP to the fleet. FY 2011 Plans: Continue project management support to the WASP for future releases of WASP to the fleet. FY 2012 Base Plans: Continue project management support to the WASP for future releases of WASP to the fleet. | | | | | |
| Accomplishments/Planned Programs Subtotals | 11.986 | 12.377 | 12.075 | - | 12.075 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604215N: <i>Standards Development</i> | PROJECT 2311: <i>Stores Planning and Weaponing Module</i> |
|---|---|---|

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> <u>Base</u> | <u>FY 2012</u> <u>OCO</u> | <u>FY 2012</u> <u>Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
|--|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| • RDTE/3858: <i>Air Force Mission Planning</i> | 81.577 | 83.554 | 74.172 | 0.000 | 74.172 | 76.036 | 82.732 | 96.123 | 0.000 | 0.000 | 494.194 |

D. Acquisition Strategy

WASP products, delivered annually, were developed in-house by Naval Air Systems Command consisting of NAWCAD and NAWCWD, engineers and support contractors. The team has now migrated to a smaller government team that provides functional expertise in aircraft safety-of-flight (air-vehicle stores compatibility, weapons separation, aircraft aerodynamic flutter, ground/flight loads, authorized fuze arm times, aircraft safe escape), guided weapons employment and weapons effects against targets, with the majority of the software development conducted by various contractors. The Government, engineering, test, and support teams (test facilities, functional qualification testing and certification/accreditation test) are supplemented with contractor labor. WASP utilizes the Logistics Maintenance Supply Support (LMSS) contract.

E. Performance Metrics

Average time to plan a flight: Threshold value is < 1 hour average time to plan a flight that includes full aircraft loadout and weapons delivery safe escape planning. Objective value is < 15 minutes average time to plan a flight that includes full aircraft loadout and weapons delivery safe escape planning. End product is a pilot's z-diagram knee board card.

Interoperability: Threshold value is 100% stand alone value.

Objective value is 100% stand alone value.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604215N: <i>Standards Development</i> | PROJECT 2311: <i>Stores Planning and Weaponing Module</i> |
|---|---|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Product Development (NOMWN, 5169 6 FI&OCC) | WR | NAWCAD:Patuxent River, MD | 16.991 | 0.010 | Nov 2010 | 0.142 | Nov 2011 | - | | 0.142 | Continuing | Continuing | Continuing |
| Product Development SEAL | Various | Various:Various | 30.225 | 0.203 | Nov 2010 | 0.391 | Nov 2011 | - | | 0.391 | 0.000 | 30.819 | 30.833 |
| Product Development | WR | AF Seek Eagle:Eglin AFB, FL | - | 0.074 | Nov 2010 | 0.076 | Nov 2011 | - | | 0.076 | Continuing | Continuing | Continuing |
| Primary Software Development TWH | C/CPFF | Lockheed Martin:Marlton, NJ | - | 6.469 | Nov 2010 | 5.594 | Nov 2011 | - | | 5.594 | 0.000 | 12.063 | 12.263 |
| Product Development WARP | WR | NAWCWD:China Lake, CA | - | 0.700 | Nov 2010 | 0.394 | Nov 2011 | - | | 0.394 | Continuing | Continuing | Continuing |
| Prior year cost no longer funded in FYDP | Various | Various:Various | 26.492 | - | | - | | - | | - | 0.000 | 26.492 | |
| Subtotal | | | 73.708 | 7.456 | | 6.597 | | - | | 6.597 | | | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Test & Evaluation CIV & OCC | WR | NAWCAD:Patuxent River, MD | 17.398 | 0.793 | Nov 2010 | 1.206 | Nov 2011 | - | | 1.206 | Continuing | Continuing | Continuing |
| Test & Evaluation | WR | NAWCWD:Pt. Mugu, CA | 0.100 | 0.165 | Nov 2010 | - | | - | | - | Continuing | Continuing | Continuing |
| Test & Evaluation MANTECH & WYLE | C/CPFF | Various:Various | 6.000 | 1.170 | Nov 2010 | 1.463 | Nov 2011 | - | | 1.463 | 0.000 | 8.633 | 11.472 |
| Prior Year costs no longer funded in FYDP | Various | Various:Various | 0.377 | - | | - | | - | | - | 0.000 | 0.377 | |
| Subtotal | | | 23.875 | 2.128 | | 2.669 | | - | | 2.669 | | | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604215N: <i>Standards Development</i> | PROJECT 2311: <i>Stores Planning and Weaponering Module</i> |
|---|---|---|

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|--|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Program Management Support Tecelote, shared costs, Materials | WR | NAWCAD:Patuxent River, MD | 8.088 | 0.520 | Nov 2010 | 0.729 | Nov 2011 | - | | 0.729 | Continuing | Continuing | Continuing |
| Government Engineering Support CIV Sys Eng | WR | NAWCAD:Patuxent River, MD | 4.827 | 0.853 | Nov 2010 | 0.631 | Nov 2011 | - | | 0.631 | Continuing | Continuing | Continuing |
| Program Management Support Brandes & MANTECH | Various | Various:Various | - | 0.659 | Nov 2010 | 0.636 | Nov 2011 | - | | 0.636 | 0.000 | 1.295 | 1.295 |
| Government Engineering Support | WR | NAWCWD:China Lake, CA | 1.098 | 0.017 | Nov 2010 | 0.018 | Nov 2011 | - | | 0.018 | Continuing | Continuing | Continuing |
| Travel | WR | NAWCAD:Patuxent River, MD | 1.261 | 0.060 | Nov 2010 | 0.030 | Nov 2011 | - | | 0.030 | Continuing | Continuing | Continuing |
| Systems Engineering Support | Various | Various:Various | - | 0.684 | Nov 2010 | 0.765 | Nov 2011 | - | | 0.765 | 0.000 | 1.449 | 1.549 |
| Prior year costs no longer funded in FYDP | Various | Various:Various | 0.663 | - | | - | | - | | - | 0.000 | 0.663 | |
| Subtotal | | | 15.937 | 2.793 | | 2.809 | | - | | 2.809 | | | |
| Project Cost Totals | | | 113.520 | 12.377 | | 12.075 | | - | | 12.075 | | | |

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

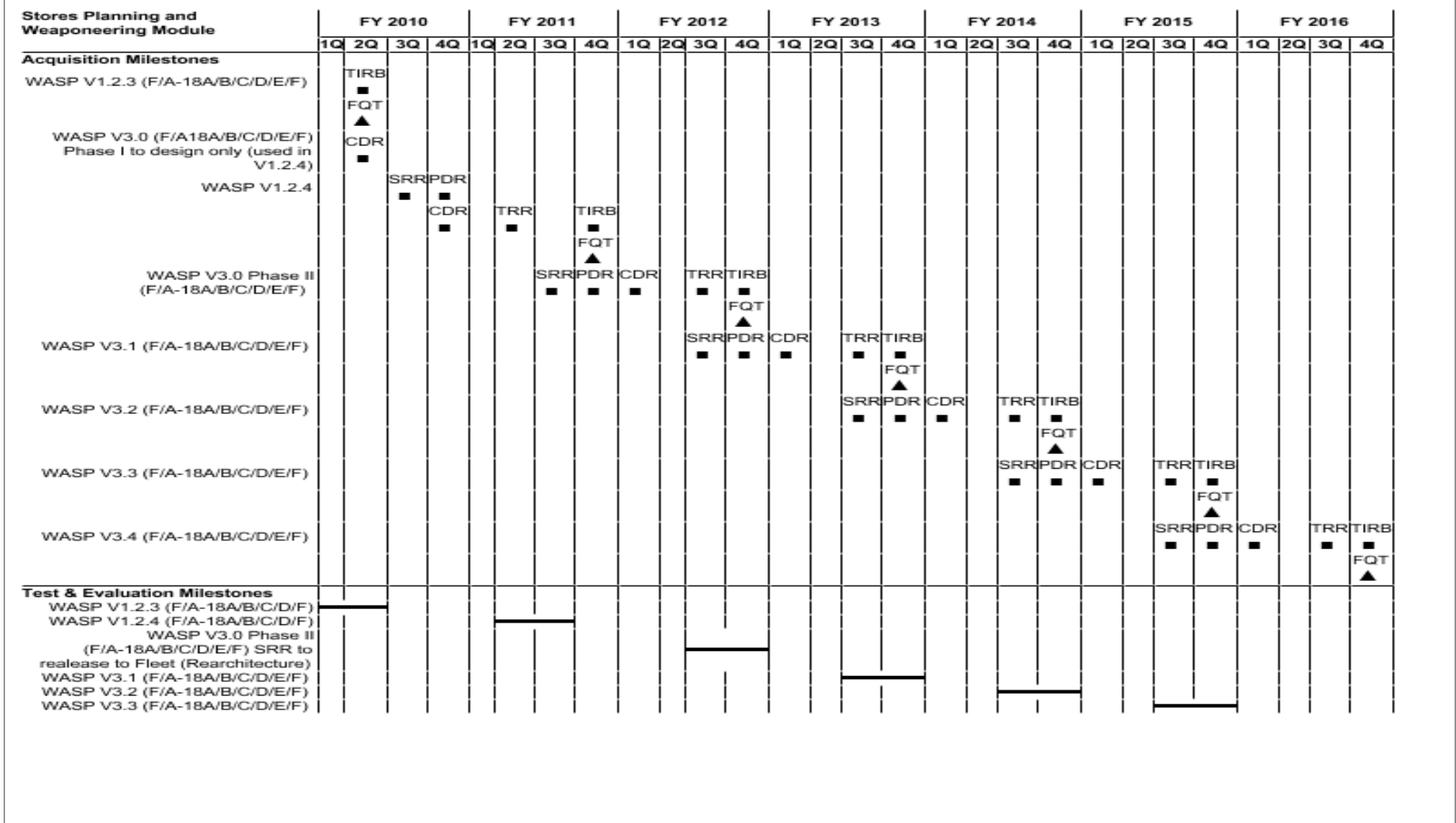
1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604215N: *Standards Development*

PROJECT

2311: *Stores Planning and Weaponing Module*



UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604215N: <i>Standards Development</i> | PROJECT 2311: <i>Stores Planning and Weaponeeing Module</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Stores Planning and Weaponeeing Module | | | | |
| Acquisition Milestones: WASP V1.2.3 (F/A-18A/B/C/D/E/F): Technical Information Review Board | 2 | 2010 | 2 | 2010 |
| Acquisition Milestones: WASP V1.2.3 (F/A-18A/B/C/D/E/F): Functional Qualification Test | 2 | 2010 | 2 | 2010 |
| Acquisition Milestones: WASP V3.0 (F/A-18A/B/C/D/E/F) Phase I to design only (used in V1.2.4): Critical Design Review | 2 | 2010 | 2 | 2010 |
| Acquisition Milestones: WASP V1.2.4: Software Requirements Review | 3 | 2010 | 3 | 2010 |
| Acquisition Milestones: WASP V1.2.4: Preliminary Design Review | 4 | 2010 | 4 | 2010 |
| Acquisition Milestones: WASP V1.2.4: Critical Design Review | 4 | 2010 | 4 | 2010 |
| Acquisition Milestones: WASP V1.2.4: Test Readiness Review | 2 | 2011 | 2 | 2011 |
| Acquisition Milestones: WASP V1.2.4: Technical Information Review Board | 4 | 2011 | 4 | 2011 |
| Acquisition Milestones: WASP V1.2.4: Functional Qualification Test | 4 | 2011 | 4 | 2011 |
| Acquisition Milestones: WASP V3.0 Phase II (F/A-18A/B/C/D/E/F): Software Requirements Review | 3 | 2011 | 3 | 2011 |
| Acquisition Milestones: WASP V3.0 Phase II (F/A-18A/B/C/D/E/F): Preliminary Design Review | 4 | 2011 | 4 | 2011 |
| Acquisition Milestones: WASP V3.0 Phase II (F/A-18A/B/C/D/E/F): Critical Design Review | 1 | 2012 | 1 | 2012 |
| Acquisition Milestones: WASP V3.0 Phase II (F/A-18A/B/C/D/E/F): Test Readiness Review | 3 | 2012 | 3 | 2012 |
| Acquisition Milestones: WASP V3.0 Phase II (F/A-18A/B/C/D/E/F): Technical Information Review Board | 4 | 2012 | 4 | 2012 |
| | 4 | 2012 | 4 | 2012 |

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604215N: <i>Standards Development</i> | PROJECT 2311: <i>Stores Planning and Weaponing Module</i> |

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Acquisition Milestones: WASP V3.0 Phase II (F/A-18A/B/C/D/E/F): Functional Qualification Test | | | | |
| Acquisition Milestones: WASP V3.1 (F/A-18A/B/C/D/E/F): Software Requirements Review | 3 | 2012 | 3 | 2012 |
| Acquisition Milestones: WASP V3.1 (F/A-18A/B/C/D/E/F): Preliminary Design Review | 4 | 2012 | 4 | 2012 |
| Acquisition Milestones: WASP V3.1 (F/A-18A/B/C/D/E/F): Critical Design Review | 1 | 2013 | 1 | 2013 |
| Acquisition Milestones: WASP V3.1 (F/A-18A/B/C/D/E/F): Test Readiness Review | 3 | 2013 | 3 | 2013 |
| Acquisition Milestones: WASP V3.1 (F/A-18A/B/C/D/E/F): Technical Information Review Board | 4 | 2013 | 4 | 2013 |
| Acquisition Milestones: WASP V3.1 (F/A-18A/B/C/D/E/F): Functional Qualification Test | 4 | 2013 | 4 | 2013 |
| Acquisition Milestones: WASP V3.2 (F/A-18A/B/C/D/E/F): Software Requirements Review | 3 | 2013 | 3 | 2013 |
| Acquisition Milestones: WASP V3.2 (F/A-18A/B/C/D/E/F): Preliminary Design Review | 4 | 2013 | 4 | 2013 |
| Acquisition Milestones: WASP V3.2 (F/A-18A/B/C/D/E/F): Critical Design Review | 1 | 2014 | 1 | 2014 |
| Acquisition Milestones: WASP V3.2 (F/A-18A/B/C/D/E/F): Test Readiness Review | 3 | 2014 | 3 | 2014 |
| Acquisition Milestones: WASP V3.2 (F/A-18A/B/C/D/E/F): Technical Information Review Board | 4 | 2014 | 4 | 2014 |
| Acquisition Milestones: WASP V3.2 (F/A-18A/B/C/D/E/F): Functional Qualification Test | 4 | 2014 | 4 | 2014 |
| Acquisition Milestones: WASP V3.3 (F/A-18A/B/C/D/E/F): Software Requirements Review | 3 | 2014 | 3 | 2014 |
| Acquisition Milestones: WASP V3.3 (F/A-18A/B/C/D/E/F): Preliminary Design Review | 4 | 2014 | 4 | 2014 |
| Acquisition Milestones: WASP V3.3 (F/A-18A/B/C/D/E/F): Critical Design Review | 1 | 2015 | 1 | 2015 |
| Acquisition Milestones: WASP V3.3 (F/A-18A/B/C/D/E/F): Test Readiness Review | 3 | 2015 | 3 | 2015 |
| Acquisition Milestones: WASP V3.3 (F/A-18A/B/C/D/E/F): Technical Information Review Board | 4 | 2015 | 4 | 2015 |
| Acquisition Milestones: WASP V3.3 (F/A-18A/B/C/D/E/F): Functional Qualification Test | 4 | 2015 | 4 | 2015 |

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604215N: <i>Standards Development</i> | PROJECT 2311: <i>Stores Planning and Weaponing Module</i> |

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Acquisition Milestones: WASP V3.4 (F/A-18A/B/C/D/E/F): Software Requirements Review | 3 | 2015 | 3 | 2015 |
| Acquisition Milestones: WASP V3.4 (F/A-18A/B/C/D/E/F): Preliminary Design Review | 4 | 2015 | 4 | 2015 |
| Acquisition Milestones: WASP V3.4 (F/A-18A/B/C/D/E/F): Critical Design Review | 1 | 2016 | 1 | 2016 |
| Acquisition Milestones: WASP V3.4 (F/A-18A/B/C/D/E/F): Test Readiness Review | 3 | 2016 | 3 | 2016 |
| Acquisition Milestones: WASP V3.4 (F/A-18A/B/C/D/E/F): Technical Information Review Board | 4 | 2016 | 4 | 2016 |
| Acquisition Milestones: WASP V3.4 (F/A-18A/B/C/D/E/F): Functional Qualification Test | 4 | 2016 | 4 | 2016 |
| Test & Evaluation Milestones: WASP V1.2.3 (F/A-18A/B/C/D/F): | 1 | 2010 | 2 | 2010 |
| Test & Evaluation Milestones: WASP V1.2.4 (F/A-18A/B/C/D/F): | 2 | 2011 | 3 | 2011 |
| Test & Evaluation Milestones: WASP V3.0 Phase II (F/A-18A/B/C/D/E/F) SRR to reelease to Fleet (Rearchitecture): | 3 | 2012 | 4 | 2012 |
| Test & Evaluation Milestones: WASP V3.1 (F/A-18A/B/C/D/E/F): | 3 | 2013 | 4 | 2013 |
| Test & Evaluation Milestones: WASP V3.2 (F/A-18A/B/C/D/E/F): | 3 | 2014 | 4 | 2014 |
| Test & Evaluation Milestones: WASP V3.3 (F/A-18A/B/C/D/E/F): | 3 | 2015 | 4 | 2015 |
| Test & Evaluation Milestones: WASP V3.4 (F/A-18A/B/C/D/E/F): | 2 | 2016 | 3 | 2016 |
| Production Milestones: WASP V1.2.3 (F/A-18A/B/C/D/E/F) Initial Operational Capability (IOC): | 4 | 2010 | 4 | 2010 |
| Production Milestones: WASP V1.2.4 (F/A-18A/B/C/D/E/F) IOC: | 1 | 2012 | 1 | 2012 |
| Production Milestones: WASP V3.0 Release (F/A-18A/B/C/D/E/F) IOC: | 2 | 2013 | 2 | 2013 |
| Production Milestones: WASP V3.1 Release (F/A-18A/B/C/D/E/F) IOC: | 2 | 2014 | 2 | 2014 |
| Production Milestones: WASP V3.2 (F/A-18A/B/C/D/E/F) IOC: | 2 | 2015 | 2 | 2015 |
| Production Milestones: WASP V3.3 (F/A-18A/B/C/D/E/F) IOC: | 2 | 2016 | 2 | 2016 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604215N: <i>Standards Development</i> | PROJECT 2312: <i>Common Helicopters</i> |
|---|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 2312: <i>Common Helicopters</i> | 0.929 | 0.928 | 0.889 | - | 0.889 | 0.903 | 0.918 | 0.939 | 0.948 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Automated mission planning systems to date have focused on developing planning capabilities for fixed-wing aircraft, while the unique planning requirements for helicopters have not been fully addressed. The unique and enhanced automated mission planning requirements that must be developed and implemented for helicopters include: data loading, an enhanced route editor (serpentine routing, hover), manipulation of higher fidelity (smaller scale) maps and imagery, enhanced performance tools (performance in and out of ground effect, performance degradation due to atmospheric conditions & elevation), and enhanced fidelity of landing zone, target zone, and threat analyses. The following type/model/series aircraft are supported by this PE: AH-1W/Z, UH-1N/Y, H-46/E, H-53D/E, H-60B/F/H/R/S and V-22. Common helicopter functionality will be developed for implementation in Joint Mission Planning System (JMPS).

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|--------------|-------------|---------------|
| Title: Common Helicopters | 0.929 | 0.928 | 0.889 | - | 0.889 |
| Articles: | 0 | 0 | 0 | | 0 |
| Description: Continue development of Common Helicopter functionality and integration with JMPS Version 1.2.4, 1.4 and Portable Flight Planning Station (PFPS) Version 3.31. | | | | | |
| FY 2010 Accomplishments: Performed Common Mission Data Loader (CMDL) .NET UPC Preliminary Design Review (PDR) and Critical Design Review (CDR), developed and delivered two builds of legacy CMDL UPC to Developmental Test (DT), developed and delivered VH-3D and VH-60N Weight & Power Calculator (WPC) module to DT, and developed and delivered two additional helicopter WPC modules to DT. | | | | | |
| FY 2011 Plans: Develop and deliver two builds of legacy CMDL UPC DT, develop and deliver CMDL .net UPC to DT, and develop and deliver three helicopter WPC modules to DT. | | | | | |
| FY 2012 Base Plans: Develop and deliver CMDL compatibility with Windows 7, FW 1.2, 1.3 and 1.4 to DT. | | | | | |
| Accomplishments/Planned Programs Subtotals | 0.929 | 0.928 | 0.889 | - | 0.889 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604215N: <i>Standards Development</i> | PROJECT 2312: <i>Common Helicopters</i> |
|---|---|---|

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> <u>Base</u> | <u>FY 2012</u> <u>OCO</u> | <u>FY 2012</u> <u>Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
|--|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| • RDTE/3858: <i>Air Force Mission Planning Systems</i> | 81.577 | 83.554 | 74.172 | 0.000 | 74.172 | 76.036 | 82.723 | 96.123 | 0.000 | Continuing | Continuing |

D. Acquisition Strategy

Not Applicable.

E. Performance Metrics

Export Mission Data to Data Transfer Device (DTD): Threshold value is < 12 minutes to transfer navigation, communication, weapon system initialization settings and intelligence data.

Interoperability: Threshold value is 100% of top level Information Exchange Requirements (IERs) designated critical will be satisfied.
Objective value is 100% of top level IERs will be satisfied.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604215N: <i>Standards Development</i> | PROJECT 9999: <i>Congressional Adds</i> |
|---|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 9999: <i>Congressional Adds</i> | 5.776 | - | - | - | - | - | - | - | - | 0.000 | 5.776 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Congressional Adds.

B. Accomplishments/Planned Programs (\$ in Millions)

| | | |
|---|---------|---------|
| Congressional Add: Measurement Standards Research and Development | FY 2010 | FY 2011 |
| <i>FY 2010 Accomplishments:</i> FY 2010 RDT&E Congressional Plus-up Funds for the U.S. Navy Metrology R&D Program efforts at the Naval Surface Warfare Center, Corona, Ca, will be issued for the research and development (R&D) of National, Primary, and Depot Maintenance calibration standards (hardware) in the technology areas of Physical-mechanical, Microwave/Millimeter-Wave, Electro-optics, and Nuclear, Biological and Chemical (NBC) for the purpose of ensuring measurement accuracy in combat systems of new advance technology and current weapon systems and associated test equipment. This will provide for the development of metrology standards in support of test measurements of air launched missiles, automated calibration of shipboard smart sensors, shipboard and aircraft test systems. This will also continue the development of the new generation automated calibration system and NBC standards for hand-held Ion Mobility Spectrometry (IMS) detectors and quantifiable UV data accuracy in support of portable biological detector systems. | 5.776 | - |
| Congressional Adds Subtotals | 5.776 | - |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

Not Required for Congressional Adds.

E. Performance Metrics

Not Required for Congressional Adds.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | | | R-1 ITEM NOMENCLATURE | | | | | | | | |
|---|----------------|----------------|---|--------------------|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> | | | PE 0604216N: <i>Multi-Mssn Helicopter Upgrade Dev</i> | | | | | | | | |
| BA 5: <i>Development & Demonstration (SDD)</i> | | | | | | | | | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| Total Program Element | 134.436 | 55.792 | 17.673 | - | 17.673 | 6.871 | 3.817 | 5.219 | - | 0.000 | 223.808 |
| 1707: <i>MH-60R Development</i> | 69.436 | 55.792 | 17.673 | - | 17.673 | 6.871 | 3.817 | 5.219 | - | 0.000 | 158.808 |
| 9999: <i>Congressional Adds</i> | 65.000 | - | - | - | - | - | - | - | - | 0.000 | 65.000 |

A. Mission Description and Budget Item Justification

This Program Element includes funding for the development support for the improvements to current systems for the MH-60R development. The MH-60R has one primary mission area and one secondary mission area. The primary mission areas of the MH-60R include Anti-Submarine Warfare and Surface Warfare. Secondary mission areas include Search and Rescue, Vertical Replenishment, Naval Surface Fire Support, logistics support, personnel transport and Medical Evacuation.

This Program Element includes Congressional Add funding for Situational Awareness Technology Insert.

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 75.284 | 55.792 | 15.244 | - | 15.244 |
| Current President's Budget | 134.436 | 55.792 | 17.673 | - | 17.673 |
| Total Adjustments | 59.152 | - | 2.429 | - | 2.429 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | -0.053 | - | | | |
| • SBIR/STTR Transfer | -1.604 | - | | | |
| • Program Adjustments | - | - | 2.764 | - | 2.764 |
| • Section 219 Reprogramming | -0.440 | - | - | - | - |
| • Rate/Misc Adjustments | - | - | -0.335 | - | -0.335 |
| • Congressional General Reductions | 0.009 | - | - | - | - |
| Adjustments | | | | | |
| • Congressional Add Adjustments | 61.240 | - | - | - | - |

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 9999: *Congressional Adds*

Congressional Add: *MH-60R/S Situational Awareness Technology Insert*

| FY 2010 | FY 2011 |
|----------------|----------------|
| 65.000 | - |

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604216N: <i>Multi-Mssn Helicopter Upgrade Dev</i> |
|---|---|

Congressional Add Details (\$ in Millions, and Includes General Reductions)

| | FY 2010 | FY 2011 |
|---|---------|---------|
| Congressional Add Subtotals for Project: 9999 | 65.000 | - |
| Congressional Add Totals for all Projects | 65.000 | - |

Change Summary Explanation

Technical: Not applicable.

Schedule:

Test & Evaluation, SAU-07-000 test moved from 3Q/2010-3Q/2011 to 2Q/2011-1Q/2012 due to contract definitization which resulted in a revised schedule.

Production Milestones and Production deliveries changed to reflect ARPDD production incorporation versus Multiyear Production Deliveries.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604216N: <i>Multi-Mssn Helicopter Upgrade Dev</i> | PROJECT 1707: <i>MH-60R Development</i> |
|---|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 1707: <i>MH-60R Development</i> | 69.436 | 55.792 | 17.673 | - | 17.673 | 6.871 | 3.817 | 5.219 | - | 0.000 | 158.808 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

The primary mission areas of the MH-60R include Anti-Submarine Warfare and Surface Warfare. Secondary mission areas include Search and Rescue, Vertical Replenishment, Naval Surface Fire Support, logistics support, personnel transport and Medical Evacuation. The MH-60R provides direct support to the Carrier Strike Group and provides Link Communications Relay via VHF/UHF, Link-16, and Common Data Link (CDL) with the incorporation of Interface Design Specification (SAU-07-000) full data exchange via CDL. Ku-Band will be provided to DDG-1000, CVN-78 Class and LCS platforms. Aircraft Ship Integrated Secure and Traverse reduces operational requirements aboard ships by eliminating the need for hauldown capability and providing automatic movements for aircraft on deck. The MH-60R is Post-Milestone III; executing Pre-Planned Product Improvements (P3I) to Air Vehicle and Mission systems. P3I includes upgrades to communication, navigation, Identification Friend or Foe (IFF), Multi-Spectral Targeting System(MTS)/Forward Looking Infrared Radar (FLIR), Automatic Radar Periscope Detection and Discrimination (ARPDD), weapons, data link, safety, maintenance, airframe and mission planning systems. IFF Mode 5 Interrogator capability is being embedded into the APS-147 Radar to provide positive determination of friendly combatants beyond visual range. The current magnesium gearbox is being replaced with aluminum gearbox to reduce corrosion and improve total ownership cost.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|--|---------|---------|---------|
| Title: Avionics H/W and S/W Development | 40.154 | 38.347 | 8.564 |
| Articles: | 0 | 0 | 0 |
| <p>Description: Supports aircraft integration, problem investigation and resolution, lab management and upgrades, hardware investigations, and repairs in support of the test program. Provides for Integrated Logistics Support and Program Management Board Support and subvendor support. Avionics hardware and software development and integration to include: P3I/Link-16, Radar (ARPDD), IFF Mode 5 interrogator, Communications, GPS, Acoustics and post processing. Mission planning, MTS/FLIR, Weapons, Stores and self defense, Data fusion, and Logistics products including Integrated Electronic Technical Manuals. ARPDD provides an automated periscope detection, classification, and tracking capability to reliably detect periscopes and masts, and reliably discriminate periscopes from clutter and confusion targets. This capability is suitable for air and surface platforms. The current magnesium gearbox is being replaced with aluminum gearbox to reduce corrosion and improve total ownership cost.</p> <p>FY 2010 Accomplishments: Continued ARPDD System Design and Development, P3I integration testing, and conducted ARPDD integrated testing.</p> <p>FY 2011 Plans:</p> | | | |

UNCLASSIFIED

| | | | | |
|---|---|---|----------------|----------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604216N: <i>Multi-Mssn Helicopter Upgrade Dev</i> | PROJECT 1707: <i>MH-60R Development</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| Continue ARPDD SDD, P3I integration testing, IFF Mode 5, and ARPDD integrated testing. FY 2012 Plans: Continue ARPDD SDD, P3I integration testing, IFF Mode 5, and ARPDD integrated testing. Begin aluminum gearbox development. | | | | |
| Title: Common Data Link Description: Avionics P3I Upgrade for the CDL and reversability between C-Band and KuBand software design interface (SAU-07-000) provides connectivity and full data exchange with DDG-1000, LCS and CVN-78 Class. FY 2010 Accomplishments: Continued SAU-07-000 software design and interface efforts. FY 2011 Plans: Begin SAU-07-000 testing. | | 12.182 Articles: 0 | 0.600 0 | - |
| Title: Engineering and Logistics FY 2010 Accomplishments: Continued to provide engineering specialists, Integrated Logistics Support, Government Furnished Equipment, Support Equipment, Program Management, Contract Support Services, and travel to support P3I integration testing, SAU-07-000 testing, ARPDD SDD, and conduct ARPDD integrated testing. FY 2011 Plans: Continue to provide engineering specialists, Integrated Logistics Support, Government Furnished Equipment, Support Equipment, Program Management, Contract Support Services, and travel to support P3I integration testing, SAU-07-000 testing, ARPDD SDD, and conduct ARPDD integrated testing. FY 2012 Plans: Continue to provide engineering specialists, Integrated Logistics Support, Government Furnished Equipment, Support Equipment, Program Management, Contract Support Services, and travel to support P3I integration testing, SAU-07-000 testing, ARPDD SDD, and conduct ARPDD integrated testing. | | 8.339 Articles: 0 | 11.138 0 | 2.891 0 |
| Title: Avionics Testing and Evaluation | | 8.761 Articles: 0 | 5.707 0 | 6.218 0 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604216N: <i>Multi-Mssn Helicopter Upgrade Dev</i> | PROJECT 1707: <i>MH-60R Development</i> |
|---|---|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| <p><i>FY 2010 Accomplishments:</i> Continued to provide MH-60R Mission Avionics testing, Avionics Mission P3I, and ARPDD testing and evaluation efforts.</p> <p><i>FY 2011 Plans:</i> Continue to provide MH-60R Mission Avionics testing, Avionics Mission P3I, and ARPDD testing and evaluation efforts. Begin IFF Mode 5 Interrogator testing and evaluation efforts.</p> <p><i>FY 2012 Plans:</i> Continue to provide MH-60R Mission Avionics testing, Avionics Mission P3I, and ARPDD testing and evaluation efforts. Begin IFF Mode 5 Interrogator testing and evaluation efforts.</p> | | | |
| Accomplishments/Planned Programs Subtotals | 69.436 | 55.792 | 17.673 |

C. Other Program Funding Summary (\$ in Millions)

| Line Item | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---|---------|-----------|-----------------|----------------|------------------|---------|-----------|-----------|-----------|---------------------|------------|
| • APN-1 BLI:018200: <i>MH-60R</i> | 931.686 | 1,059.939 | 1,000.456 | 0.000 | 1,000.456 | 978.716 | 1,063.435 | 1,133.222 | 1,351.345 | 83.502 | 12,429.288 |
| • APN-6 BLI: 060510: <i>MH-60R</i> | 24.809 | 45.288 | 27.737 | 0.000 | 27.737 | 1.156 | 0.000 | 0.000 | 0.000 | 0.000 | 289.768 |
| • APN-5 BLI: 053000: <i>SH60 Series</i> | 33.492 | 21.484 | 37.887 | 0.000 | 37.887 | 47.397 | 57.940 | 56.739 | 58.275 | 502.284 | 864.144 |

D. Acquisition Strategy

Initial Operating Capability (IOC) was achieved in Dec 05 and the Milestone III, Full Rate Production decision occurred in March 2006. As the SH-60B and SH-60F reach the end of their service life, the MH-60R serves as the replacement weapon system. The MH-60R weapon system began fielding in FY2006. The mission systems include Common Cockpit, Airborne Low Frequency Sonar, sonobuoy launcher, Commercial-off-the-Shelf Acoustics Processor, Electronic Support Measure, MTS/FLIR system, Multi Mission Radar, ARPDD, CDL Hawklink, Integrated Self Defense and weapons capability. P3I upgrades will be integrated, tested, and fielded to ensure increased capabilities are provided to the Fleet User.

E. Performance Metrics

Successfully achieve IOC for the Automatic Radar Periscope Detection and Discriminator upgrade to the MH-60R Multi-Mode Radar. Improve ESM Mission Data Load performance prior to next operational deployment and determine if any long term ESM software/hardware fixes are required. Determine solutions to the Automatic Video Tracking lock and Eye-safe Laser Range Finder labeling prior to next operational deployment.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604216N: <i>Multi-Mssn Helicopter Upgrade Dev</i> | PROJECT 1707: <i>MH-60R Development</i> |
|---|---|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Primary Hdw Dev, Avionics (LMSI) | SS/CPFF | Lockheed Martin:Owego, NY | 811.459 | 38.347 | Nov 2010 | 4.964 | Nov 2011 | - | | 4.964 | 0.000 | 854.770 | 854.770 |
| Primary Hdw Dev, Avionics (SAU) | SS/CPFF | Lcokheed Martin:Owego, NY | 16.582 | 0.600 | Feb 2011 | - | | - | | - | 0.000 | 17.182 | 17.182 |
| Primary Hdw Dev, Airframe (SAC) | SS/FFP | Sikorsky:Straford, CT | - | - | | 3.600 | Jan 2012 | - | | 3.600 | 7.900 | 11.500 | 11.500 |
| All Product Dev Cost from FY93-FY10 | Various | Various:Not Specified | 280.389 | - | | - | | - | | - | 0.000 | 280.389 | 280.389 |
| Subtotal | | | 1,108.430 | 38.947 | | 8.564 | | - | | 8.564 | 7.900 | 1,163.841 | 1,163.841 |

Remarks

Primary Hdw Dev, Airframe (SAC) Prior Year contract erroneously reported as SS/CPAF
 Primary Hdw Dev, Avionics (CDL) Award Fee 7%

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|-------------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Government Engineering Support | WR | NAWC AD:Patuxent River, MD | 7.904 | 4.561 | Nov 2010 | 1.593 | Nov 2011 | - | | 1.593 | 0.767 | 14.825 | |
| Government Engineering Support | WR | NAWC WD:China Lake, CA | 13.010 | 3.610 | Nov 2010 | 0.743 | Nov 2011 | - | | 0.743 | 0.000 | 17.363 | |
| Government Engineering Support | Various | Various:Various | 3.146 | 1.357 | Nov 2010 | 0.555 | Nov 2011 | - | | 0.555 | 0.770 | 5.828 | |
| All Product Dev Cost From FY93-FY10 | Various | Various:Various | 123.477 | - | | - | | - | | - | 0.000 | 123.477 | |
| Subtotal | | | 147.537 | 9.528 | | 2.891 | | - | | 2.891 | 1.537 | 161.493 | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604216N: *Multi-Mssn Helicopter Upgrade Dev*

PROJECT

1707: *MH-60R Development*

| PE 0604216N: Multi-Mission Helicopter Upgrade Development | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|---|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Systems Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HW/SW P3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HW/SW ARPDD | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HW/SW SAU-07-000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test & Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| P3 Integration | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ARPDD | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ARPDD Contract | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ARPDD | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604216N - 1707

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604216N: <i>Multi-Mssn Helicopter Upgrade Dev</i> | PROJECT 1707: <i>MH-60R Development</i> |
|---|---|---|

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| <i>PE 0604216N: Multi-Mission Helicopter Upgrade Development</i> | | | | |
| Acquisition Milestones: Milestones: ARPDD IOC | 4 | 2013 | 4 | 2013 |
| Systems Development: HW/SW P3: P3 Integration | 1 | 2010 | 2 | 2011 |
| Systems Development: HW/SW ARPDD: ARPDD Integration Test | 3 | 2010 | 2 | 2012 |
| Systems Development: HW/SW SAU-07-000: SAU-07-000 Test | 2 | 2011 | 1 | 2012 |
| Test & Evaluation: P3 Integration: P3 Integration | 1 | 2010 | 2 | 2011 |
| Test & Evaluation: ARPDD: ARPDD OT | 3 | 2012 | 4 | 2012 |
| Production Milestones: ARPDD Contract: ARPDD Contract | 1 | 2010 | 4 | 2012 |
| Production Milestones: ARPDD: ARPDD | 4 | 2011 | 4 | 2011 |
| Production Milestones: Deliveries: ARPDD Production Incorporation | 3 | 2013 | 3 | 2013 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604216N: <i>Multi-Mssn Helicopter Upgrade Dev</i> | PROJECT 9999: <i>Congressional Adds</i> |
|---|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 9999: <i>Congressional Adds</i> | 65.000 | - | - | - | - | - | - | - | - | 0.000 | 65.000 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Congressional Add

B. Accomplishments/Planned Programs (\$ in Millions)

| | FY 2010 | FY 2011 |
|---|---------|---------|
| <i>Congressional Add:</i> MH-60R/S Situational Awareness Technology Insert | 65.000 | - |
| <i>FY 2010 Accomplishments:</i> N/A | | |
| Congressional Adds Subtotals | 65.000 | - |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

Not required for Congressional Adds

E. Performance Metrics

Not required for Congressional Adds

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | | | | R-1 ITEM NOMENCLATURE | | | | | | | |
|---|----------------|----------------|---------------------|---|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | PE 0604218N: <i>Air/Ocean Equipment Engineering</i> | | | | | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| Total Program Element | 7.780 | 5.735 | 5.922 | - | 5.922 | 4.141 | 4.295 | 4.447 | 4.424 | Continuing | Continuing |
| 2345: <i>Fleet METOC Equipment</i> | 5.297 | 4.138 | 4.436 | - | 4.436 | 2.669 | 2.787 | 2.916 | 2.878 | Continuing | Continuing |
| 2346: <i>METOC Sensor Engineering</i> | 2.483 | 1.597 | 1.486 | - | 1.486 | 1.472 | 1.508 | 1.531 | 1.546 | Continuing | Continuing |

A. Mission Description and Budget Item Justification

The Air/Ocean Equipment Engineering (AOEE) Program Element provides future mission capabilities to support naval combat forces. This program engineers and developmentally tests organic and remote sensors, communication interfaces, and processing and display devices. These equipments are engineered to measure, ingest, store, process, distribute and display conditions of the physical environment that are essential to the optimum employment and performance of naval warfare systems. AOEE also engineers capabilities for shipboard and shore-based tactical systems. A major thrust area for the AOEE program is to provide the engineering development of specialized equipment and measurement capabilities that are intended to monitor specific conditions of the physical environment in hostile and remote areas in response to fleet demand signals for increased sensing capability and capacity to support battlespace collections and prediction on short to intermediate time scales. With such capabilities, the war fighters' situational awareness of the operational effects of the physical environment are made more certain.

Major emphasis areas include the Meteorological and Oceanographic Future Mission Capabilities (METOC FMC) project and the Littoral Battlespace Sensors - Unmanned Undersea Vehicle (LBS-UUV) comprised of ocean LBS Gliders (G) and LBS Autonomous Undersea Vehicles (AUV), the Environmental Satellite Receiver Processor comprised of AN/SMQ-11 (sea and shore configuration) and AN/FMQ-17 (shore configuration)) programs of record.

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 7.454 | 5.735 | 5.993 | - | 5.993 |
| Current President's Budget | 7.780 | 5.735 | 5.922 | - | 5.922 |
| Total Adjustments | 0.326 | - | -0.071 | - | -0.071 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | 0.494 | - | | | |
| • SBIR/STTR Transfer | -0.123 | - | | | |
| • Program Adjustments | - | - | -0.018 | - | -0.018 |
| • Section 219 Reprogramming | -0.045 | - | - | - | - |
| • Rate/Misc Adjustments | - | - | -0.053 | - | -0.053 |

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604218N: <i>Air/Ocean Equipment Engineering</i> |
|---|---|

Change Summary Explanation

Schedule: The schedule for the Meteorological and Oceanographic Future Mission Capabilities (METOC FMC) project has been updated to include the METOC Prediction and Decision Support Systems development efforts beginning in FY 2011.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604218N: <i>Air/Ocean Equipment Engineering</i> | PROJECT 2345: <i>Fleet METOC Equipment</i> |
|---|---|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|------------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 2345: <i>Fleet METOC Equipment</i> | 5.297 | 4.138 | 4.436 | - | 4.436 | 2.669 | 2.787 | 2.916 | 2.878 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

Note

Naval Integrated Tactical Environmental System Next Generation (NITES-Next) efforts realigned into PE 0603207N (Air/Ocean Tactical Applications), project 2343 (Tactical METOC Applications).

A. Mission Description and Budget Item Justification

This project provides for the engineering and manufacturing development of sensors, communication interfaces, processing and display meteorological and oceanographic (METOC) equipment. This equipment is designed to provide future mission capabilities for war fighters to measure, ingest, store, process, distribute and display METOC parameters and derived products.

This project also exploits new government off-the-shelf /commercial off-the-shelf technologies, tactical sensors and web enablement for the Navy's computer-based tactical shipboard and shore capability used to predict and assess the operational effects of the physical environment on the performance of platforms, weapons and sensor systems. This project includes development of warfare specific mission planning modules to support unmanned systems with integration of data from environmental and tactical sensor systems, model forecast information and Geospatial Information & Services Databases. This project also supports development of autonomous environmental sensing systems for situational awareness and tactical decision aid/mission planner support, as well as iridium and advanced satellite communication integration in METOC sensor, vehicle control and mission planning systems that will be required to achieve Chief of Naval Operation objectives for information dominance and decision superiority.

Major emphasis areas include the METOC Future Mission Capabilities (METOC FMC) project and the Littoral Battlespace Sensors - Unmanned Undersea Vehicle (LBS-UUV) comprised of ocean LBS Gliders (G) and LBS Autonomous Undersea Vehicles (AUV), the Marine Corps Meteorological Mobile Facility (Replacement) Next Generation (METMF(R) NEXGEN), and the Environmental Satellite Receiver Processor (comprised of AN/SMQ-11 sea and shore configuration) and AN/FMQ-17 (shore configuration)) programs of record.

FY 2012 request provides for the continued development of advanced tools and techniques for METOC asset allocation, METOC decision support applications and interfaces to tactical and strategic decision aids along with component and prototype efforts associated with acquiring environmental data, and the development of an end-to-end methodology to collect, fuse, and integrate these data into Navy and DoD networks and command and control nodes, and continue the development to support infrastructure for advanced global and regional prediction systems.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|---------|---------|--------------|-------------|---------------|
| Title: Meteorological and Oceanographic (METOC) Future Mission Capabilities (FMC) | 1.069 | 2.890 | 3.423 | - | 3.423 |

UNCLASSIFIED

| | |
|--|----------------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | DATE: February 2011 |
|--|----------------------------|

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604218N: <i>Air/Ocean Equipment Engineering</i> | PROJECT 2345: <i>Fleet METOC Equipment</i> |
|---|---|--|

| | | | | | |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|

| | | | | | |
|------------------|---|---|---|--|---|
| Articles: | 0 | 0 | 0 | | 0 |
|------------------|---|---|---|--|---|

FY 2010 Accomplishments:
Continued advanced tools and techniques for meteorological and oceanographic (METOC) asset allocation, METOC decision support applications and interfaces to tactical and strategic decision aids along with component and prototype efforts associated with acquiring environmental data. Continued development of an end-to-end methodology to collect, fuse, and integrate these data into Navy and DoD networks and command and control nodes. Continued development of Tactical Environmental Processor (TEP), and Littoral Battlespace Sensors - Unmanned Undersea Vehicle (LBS-UUV) data collection and fusion systems.

FY 2011 Plans:
Continue advanced tools and techniques development efforts for METOC asset allocation, METOC decision support applications and interfaces to tactical and strategic decision aids along with component and prototype efforts associated with acquiring environmental data. Continue development of an end-to-end methodology to collect, fuse, and integrate these data into Navy and DoD networks and command and control nodes.

FY 2012 Base Plans:
Continue advanced METOC tools and techniques development for METOC asset allocation, METOC decision support applications and interfaces to tactical and strategic decision aids along with component and prototype efforts associated with acquiring environmental data. Continue development of an end-to-end methodology to collect, fuse, and integrate these data into Navy and DoD networks and command and control nodes. Continue development of support infrastructure for advanced global & regional prediction systems. Begin to develop Through-The-Sensor (TTS) Ocean Characterization Techniques. Begin development of support infrastructure for advanced global & regional prediction systems.

| | | | | | |
|--|-------|-------|-------|---|-------|
| Title: Littoral Battlespace Sensors - Unmanned Undersea Vehicle (LBS-UUV) | 2.248 | 0.850 | 0.737 | - | 0.737 |
| Articles: | 0 | 0 | 0 | | 0 |

FY 2010 Accomplishments:
Completed the System Development and Demonstration (SDD) (or Engineering and Manufacturing Development (EMD)) phase of the Littoral Battlespace Sensing - Glider (LBS-G) system. Completed at-sea and ashore Development Testing and Evaluation (DT&E) of the complete end-to-end glider system including command and control, mission planning, launch and recovery, mission profile characteristics and other Key Performance Parameters and Key System Parameters. Completed follow-on LBS-G Engineering Change Proposals (ECPs) (sensor upgrades, power plant upgrades, etc.) and conducted associated engineering studies,

UNCLASSIFIED

UNCLASSIFIED

| | | | | | | |
|---|--|---|-------|--|---|---|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | R-1 ITEM NOMENCLATURE PE 0604218N: <i>Air/Ocean Equipment Engineering</i> | | PROJECT 2345: <i>Fleet METOC Equipment</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | | | | | |
| | | | | | | |
| analyses of alternatives, and cost estimates for input into the POM 12 process. Began the SDD (EMD) phase of the LBS Autonomous Undersea Vehicle (AUV) portion of the LBS-UUV program. | | | | | | |
| FY 2011 Plans: Update LBS-G Analysis of Alternatives, engineering studies, and cost estimates for the LBS-G Engineering Change Proposals (ECPs) as required. Upgrade LBS-G production systems via ECPs as appropriate. Continue the LBS-AUV EMD Phase, including all required testing and Technical Reviews. Begin development of the LBS-AUV Engineering Development Model (EDM). Begin to prepare for DT&E of the LBS-AUV system. | | | | | | |
| FY 2012 Base Plans: Continue to upgrade LBS-G production systems via Engineering Change Proposals (ECPs) as appropriate. Deliver prototype LBS-AUV systems. Complete LBS-AUV Developmental Test and Evaluation (DT&E). Complete LBS-AUV EMD phase and obtain Milestone C. | | | | | | |
| Title: USMC Meteorological Mobile Facility (Replacement) Next Generation (METMF (R) NEXGEN) | | | | | | |
| Articles: | | | | | | |
| | | 1.505 | 0.100 | - | - | - |
| | | 0 | 0 | | | |
| FY 2010 Accomplishments: Conducted Joint Interoperability Testing, and Engineering Change Proposals (ECP's) as needed, of the METMF(R) NEXGEN prototype systems. Prepared acquisition documentation in preparation for Milestone C. | | | | | | |
| FY 2011 Plans: Conduct Joint Interoperability Testing, Development Testing (DT), Independent Operational Test & Evaluation, Follow-On Operational Test and Evaluation, Operational Test Readiness Review, technical evaluations, operational assessments and ECP's, as required, on the METMF(R) NEXGEN Engineering Development Models (EDM). | | | | | | |
| Title: Naval Integrated Tactical Environmental System Next Generation (NITES-Next) | | | | | | |
| Articles: | | | | | | |
| | | 0.163 | - | - | - | - |
| | | 0 | | | | |
| FY 2010 Accomplishments: Continued software test and integration (developed in PE 0603207N, project 2343 Tactical meteorological and oceanographic (METOC) Applications) related to equipment and infrastructure in support of system engineering activities for Naval Integrated Tactical Environmental System Next Generation (NITES-Next). Efforts included | | | | | | |

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604218N: <i>Air/Ocean Equipment Engineering</i> | PROJECT 2345: <i>Fleet METOC Equipment</i> |

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|----------------|----------------|---------------------|--------------------|----------------------|
| integration and test efforts on infrastructure for development test and evaluation (DT&E) required in preparation for Milestone decision for NITES-Next. | | | | | |
| Title: Environmental Satellite Receiver Processor (ESRP) | 0.312 | 0.298 | 0.276 | - | 0.276 |
| Articles: | 0 | 0 | 0 | | 0 |
| FY 2010 Accomplishments: Continued and completed software integration of new satellite sensors for Polar Orbiting Environmental Satellite (POES). Completed software development in support of National POES National Preparatory Project (NPP) for Environmental Satellite Receiver Processors (ESRP). Commenced and completed engineering research to determine prospective candidate technologies and/or products to augment the capabilities of ESRP and provided technical support and analysis to determine impacts of future satellite telemetries on the ESRP systems. | | | | | |
| FY 2011 Plans: Continue and complete software integration of new METOC Satellite Sensors for POES. This year will also include integration of ESRP systems in support of Joint Polar Orbiting Satellite System (JPSS) formerly National Polar Orbiting Satellite System (NPOESS) that is scheduled to replace and or augment the Defense Meteorology Satellite Program (DMSP). | | | | | |
| FY 2012 Base Plans: Continue and complete software and hardware integration of new METOC Satellite Sensors for POES. Commence Software and hardware development in support of Polar Orbiting Environmental Satellite (POES) for ESRP. Continue both Hardware and software integration of ESRP in support of JPSS. | | | | | |
| Accomplishments/Planned Programs Subtotals | 5.297 | 4.138 | 4.436 | - | 4.436 |

| C. Other Program Funding Summary (\$ in Millions) | | | | | | | | | | | |
|--|----------------|----------------|---------------------|--------------------|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| Line Item | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| • OPN/4226: <i>METEOROLOGICAL EQUIPMENT</i> | 14.513 | 25.581 | 22.003 | 10.800 | 32.803 | 18.450 | 20.417 | 21.305 | 21.559 | Continuing | Continuing |
| • RD TEN/0603207N/2341: <i>METOC DATA ACQUISITION</i> | 20.859 | 15.288 | 6.083 | 0.000 | 6.083 | 6.802 | 6.807 | 6.981 | 6.940 | Continuing | Continuing |
| | 18.685 | 15.311 | 10.636 | 0.000 | 10.636 | 11.321 | 10.026 | 10.022 | 9.995 | Continuing | Continuing |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604218N: <i>Air/Ocean Equipment Engineering</i> | PROJECT 2345: <i>Fleet METOC Equipment</i> |
|---|---|--|

C. Other Program Funding Summary (\$ in Millions)

| Line Item | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---|---------|---------|-----------------|----------------|------------------|---------|---------|---------|---------|---------------------|------------|
| • RDTEN/0603207N/2342: <i>METOC DATA ASSIMILATION AND MOD</i> | | | | | | | | | | | |
| • RDTEN/0603207N/2343: <i>TACTICAL METOC APPLICATIONS</i> | 15.624 | 13.736 | 9.562 | 0.000 | 9.562 | 8.271 | 0.000 | 0.000 | 0.000 | Continuing | Continuing |
| • RDTEN/0604218N/2346: <i>METOC SENSOR ENGINEERING</i> | 2.483 | 1.597 | 1.486 | 0.000 | 1.486 | 1.472 | 1.508 | 1.531 | 1.546 | Continuing | Continuing |

D. Acquisition Strategy

Acquisition, management and contracting strategies are to support engineering and manufacturing development by providing funds to Naval Research Laboratories and miscellaneous contractors, with management oversight by the Program Executive Officer for Command, Control, Communications, Computers and Intelligence.

E. Performance Metrics

Goal: Develop and engineer equipment to acquire meteorological and oceanographic (METOC) data in order to improve the accuracy of global and regional scale meteorological and oceanographic forecast models.
 Metric: Tasks will address no less than 75% of applicable capability gaps and requirements, as identified by Resource and Requirements Sponsor(s). As tasks relate to exploitation of fleet sensors for METOC data (Through-the-Sensor), no less than 80% of approved initiatives will have a cost, schedule, performance and transition risk analysis completed within the past 12 months.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604218N: <i>Air/Ocean Equipment Engineering</i> | PROJECT 2345: <i>Fleet METOC Equipment</i> |
|---|---|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|--|-----------------------------------|--|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| METOC Future Mission Capabilities | WR | Naval Research Laboratory:Washington, DC | 13.487 | 2.588 | Oct 2010 | 3.141 | Oct 2011 | - | | 3.141 | Continuing | Continuing | Continuing |
| METOC Future Mission Capabilities | WR | SPAWAR System Centers:California, South Carolina | 7.521 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| METOC Future Mission Capabilities | C/CPFF | RAYTHEON:Massachusetts | 2.559 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| METOC Future Mission Capabilities | Various | Various:Various | 18.899 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| METOC Future Mission Capabilities | WR | University of WA:Washington | - | 0.250 | Nov 2010 | 0.250 | Nov 2011 | - | | 0.250 | Continuing | Continuing | Continuing |
| Littoral Battlespace Sensing - Gliders | C/CPIF | Teledyne Brown Engineering:Alabama | - | 0.200 | Nov 2010 | - | | - | | - | Continuing | Continuing | Continuing |
| METOC Future Mission Capabilities | C/FP | SAIC:Virgina | - | 0.350 | Dec 2010 | 0.350 | Dec 2011 | - | | 0.350 | 0.000 | 0.700 | |
| Littoral Battlespace Sensing - Autonomous Undersea Vehicle | C/FP | Unknown:Unknown | - | - | | 0.395 | Nov 2011 | - | | 0.395 | 0.000 | 0.395 | |
| Subtotal | | | 42.466 | 3.388 | | 4.136 | | - | | 4.136 | | | |

Remarks

The FY 2012 Littoral Battlespace Sensing - Gliders contract action to Teledyne Brown Engineering, Inc. is the award of an option to an existing contract awarded in Q2 FY 2009, and previously funded out of PE 0603207N "Air/Ocean Tactical Applications".

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|-----------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| METOC Future Mission Capabilities | C/CPFF | SSA/CSC:MISC | 1.312 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| | C/FP | SAIC:Virgina | - | 0.350 | Nov 2010 | 0.300 | Nov 2011 | - | | 0.300 | 0.000 | 0.650 | |

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604218N: <i>Air/Ocean Equipment Engineering</i> | PROJECT 2345: <i>Fleet METOC Equipment</i> |
|---|---|--|

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|--|------------------------|-------------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Littoral Battlespace Sensing - Autonomous Undersea Vehicle | | | | | | | | | | | | | |
| Littoral Battlespace Sensing - Autonomous Undersea Vehicle | C/FP | SPAWAR System Centers:San Diego, CA | - | 0.150 | Nov 2010 | - | | - | | - | 0.000 | 0.150 | |
| Subtotal | | | 1.312 | 0.500 | | 0.300 | | - | | 0.300 | | | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|--|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Test & Evaluation | WR | OPTEVFOR:Virginia | 0.414 | 0.010 | Oct 2010 | - | | - | | - | Continuing | Continuing | Continuing |
| Littoral Battlespace Sensing - Unmanned Undersea Vehicle | WR | NSWC Carderock:Maryland | - | 0.150 | Nov 2010 | - | | - | | - | 0.000 | 0.150 | |
| METMF R NEXGEN | C/FP | Smiths Detection:Rhode Island | - | 0.090 | Dec 2010 | - | | - | | - | 0.000 | 0.090 | |
| Subtotal | | | 0.414 | 0.250 | | - | | - | | - | | | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Management Services | C/CPFF | SAIC:Virginia | 0.400 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Subtotal | | | 0.400 | - | | - | | - | | - | | | |

| | | | Total Prior Years Cost | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|--|--|------------------------|---------|--|--------------|--|-------------|--|---------------|------------------|------------|--------------------------|
| Project Cost Totals | | | 44.592 | 4.138 | | 4.436 | | - | | 4.436 | | | |

Remarks

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY
1319: Research, Development, Test & Evaluation, Navy
BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE
PE 0604218N: Air/Ocean Equipment
Engineering

PROJECT
2345: Fleet METOC Equipment

| | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|--|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |

| Proj 2345 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Meteorological and Oceanographic (METOC) Future Mission Capabilities (FMC) Asset Allocation | [Redacted] | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| METOC FMC Network Integration (Navy & DoD) | [Redacted] | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| METOC FMC TEP & LBS-UUV Data Collection | [Redacted] | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| METOC FMC Develop Global & Regional METOC Support Infrastructure | [Redacted] | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| METOC FMC Through-the-Sensor (TTS) Ocean Characterization Techniques | [Redacted] | | | | | | | | | | | | | | | | | | | | | | | | | | | |

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604218N: <i>Air/Ocean Equipment Engineering</i> | PROJECT 2345: <i>Fleet METOC Equipment</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 2345 | | | | |
| Meteorological and Oceanographic (METOC) Future Mission Capabilities (FMC) Asset Allocation | 1 | 2010 | 4 | 2016 |
| METOC FMC Network Integration (Navy & DoD) | 1 | 2010 | 4 | 2016 |
| METOC FMC TEP & LBS-UUV Data Collection | 1 | 2010 | 4 | 2010 |
| METOC FMC Develop Global & Regional METOC Support Infrastructure | 1 | 2011 | 4 | 2016 |
| METOC FMC Through-the-Sensor (TTS) Ocean Characterization Techniques | 1 | 2012 | 4 | 2016 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604218N: <i>Air/Ocean Equipment Engineering</i> | PROJECT 2346: <i>METOC Sensor Engineering</i> |
|---|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---------------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 2346: <i>METOC Sensor Engineering</i> | 2.483 | 1.597 | 1.486 | - | 1.486 | 1.472 | 1.508 | 1.531 | 1.546 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

This project provides for the engineering and manufacturing development of specialized, high resolution instrumentation systems and measurement capabilities for obtaining near real-time, in-situ meteorological and oceanographic (METOC) data in hostile, remote, and denied areas. The project's objectives are to engineer near-term future mission sensing capabilities that are intended to survive the harsh littoral and deep-strike environments and also to meet demanding requirements for timeliness and accuracy. Engineering is performed within this project to ensure that air and safety certification for deployment from fleet aircraft or ships is met and that the proper data formats are engineered for electronic communications transmissions, human interface displays, and inputs to predictive models.

Major emphasis areas include the METOC Future Mission Capabilities (FMC) and Tactical Oceanographic Capabilities / Under Sea Warfare (TOC/USW) projects.

FY 2012 request provides for the continued development of advanced sensor system support technologies and techniques for sensor deployment, data processing and performance metrics to optimize sensor performance and assess the viability of sensors and subsystems on unmanned and manned aircraft systems and autonomous undersea platforms for collection of automated METOC data and information.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|---------|---------|--------------|-------------|---------------|
| Title: Meteorological and Oceanographic (METOC) Future Mission Capabilities (FMC) | 2.259 | 1.597 | 1.486 | - | 1.486 |
| Articles: | 0 | 0 | 0 | | 0 |
| FY 2010 Accomplishments: Continued system development and demonstration of METOC manned, unmanned and automated sensors (included integration of environmental sensors into a larger environmental sensing strategy). Continued the development of advanced sensor system support technologies and techniques for sensor deployment, data processing and performance metrics to optimize sensor performance. | | | | | |
| FY 2011 Plans: Continue system development and demonstration of METOC manned, unmanned and automated sensors (to include integration of environmental sensors into a larger environmental sensing strategy). Continue the development of advanced sensor system support technologies and techniques for sensor deployment, | | | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604218N: <i>Air/Ocean Equipment Engineering</i> | PROJECT 2346: <i>METOC Sensor Engineering</i> |
|---|---|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|------------|---------|--------------|-------------|---------------|
| data processing and performance metrics to optimize sensor performance. Begin technique & deployment developmental efforts in support of the Unmanned Aerial Vehicle (UAV) automated METOC sensors project. FY 2012 Base Plans: Continue system development and demonstration of METOC manned, unmanned and automated sensors (to include integration of environmental sensors into a larger environmental sensing strategy). Continue the development of advanced sensor system support technologies and techniques for sensor deployment, data processing and analysis to include performance metrics to optimize sensor performance. Assess viability of sensors and subsystems on unmanned and manned aircraft systems and autonomous undersea platforms for collection of automated METOC data and information. Develop infrastructure to acquire, process and distribute METOC data and products. | | | | | |
| Title: Tactical Oceanographic Capabilities / Undersea Warfare (TOC/USW) FY 2010 Accomplishments: Continued development of Anti-Submarine Warfare performance assessment tools, which include the following efforts: acoustic uncertainty parameterization and evolving active and passive acoustic sensors. | 0.224 0 | - | - | - | - |
| Articles: | | | | | |
| Accomplishments/Planned Programs Subtotals | 2.483 | 1.597 | 1.486 | - | 1.486 |

| C. Other Program Funding Summary (\$ in Millions) | | | | | | | | | | | |
|---|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| Line Item | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| • RDTEN/0603207N/2341: <i>METOC DATA ACQUISITION</i> | 20.859 | 15.288 | 6.083 | 0.000 | 6.083 | 6.802 | 6.807 | 6.981 | 6.940 | Continuing | Continuing |
| • RDTEN/0603207N/2342: <i>METOC DATA ASSIMILATION AND MOD</i> | 18.685 | 15.311 | 10.636 | 0.000 | 10.636 | 11.321 | 10.026 | 10.022 | 9.995 | Continuing | Continuing |
| • RDTEN/0604218N/2345: <i>FLEET METOC EQUIPMENT</i> | 5.297 | 4.138 | 4.436 | 0.000 | 4.436 | 2.669 | 2.787 | 2.916 | 2.878 | Continuing | Continuing |

D. Acquisition Strategy
Acquisition and contracting strategies are to support engineering and manufacturing development of specialized, high resolution instrumentation systems and measurement techniques for obtaining near real-time in-situ meteorological and oceanographic (METOC) data in denied or remote areas by providing funds to miscellaneous performers.

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604218N: <i>Air/Ocean Equipment Engineering</i> | PROJECT 2346: <i>METOC Sensor Engineering</i> |

E. Performance Metrics

Goal: Develop and engineer unique sensors to acquire METOC data in order to improve the accuracy of global and regional scale meteorological and oceanographic forecast models.

Metric: Tasks will address no less than 75% of applicable capability gaps and requirements, as identified by Resource Sponsor and Type Commander(s). No less than 75% of sensor engineering initiatives will be informed by an Analysis of Alternatives or market study to assess the state of the technology.

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604218N: <i>Air/Ocean Equipment Engineering</i> | PROJECT 2346: <i>METOC Sensor Engineering</i> |
|---|---|---|

| FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|
| 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |

| | |
|---|--|
| Proj 2346 | |
| Meteorology and Oceanographic (METOC) Future Mission Capabilities (FMC) Develop & Demonstrate METOC Automated Sensors | |
| METOC FMC Advanced METOC Sensor Deployment, Data Processing, & Performance Metrics | |
| METOC FMC AUV Sensor Deployment Efforts | |
| METOC FMC Assess Viability of METOC Sensors & Subsystems on Aircraft Systems and Undersea Platforms | |
| METOC FMC Develop Infrastructure to Acquire, Process, and Distribute METOC Data | |

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604218N: <i>Air/Ocean Equipment Engineering</i> | PROJECT 2346: <i>METOC Sensor Engineering</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 2346 | | | | |
| Meteorology and Oceanographic (METOC) Future Mission Capabilities (FMC) Develop & Demonstrate METOC Automated Sensors | 1 | 2010 | 4 | 2016 |
| METOC FMC Advanced METOC Sensor Deployment, Data Processing, & Performance Metrics | 1 | 2010 | 4 | 2016 |
| METOC FMC AUV Sensor Deployment Efforts | 1 | 2010 | 4 | 2011 |
| METOC FMC Assess Viability of METOC Sensors & Subsystems on Aircraft Systems and Undersea Platforms | 1 | 2011 | 4 | 2016 |
| METOC FMC Develop Infrastructure to Acquire, Process, and Distribute METOC Data | 1 | 2012 | 4 | 2016 |

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604221N: <i>P-3 Modernization Program</i> |
|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| Total Program Element | 3.508 | 3.574 | 3.417 | - | 3.417 | 3.496 | 3.575 | 3.650 | 3.717 | Continuing | Continuing |
| 1152: <i>P-3 Sensor Integration</i> | 1.422 | 1.469 | 1.356 | - | 1.356 | 1.388 | 1.421 | 1.450 | 1.476 | Continuing | Continuing |
| 3016: <i>Fatigue Life Mgmt Program</i> | 2.086 | 2.105 | 2.061 | - | 2.061 | 2.108 | 2.154 | 2.200 | 2.241 | Continuing | Continuing |

A. Mission Description and Budget Item Justification

This program provides for P-3C aircraft systems development and test in subsurface and surface surveillance, search, detection, localization, classification, attack and communications in support of Sea Shield/Sea Power 21. The P-3C Sensor Integration project integrates advanced and future Anti-Submarine Warfare (ASW) and Anti-Surface Warfare (ASuW) sensors, weapons systems, and supporting technology into legacy P-3C systems and phased capabilities upgrades. The program also advances Air Acoustic Rapid Cots Insertion (ARCI) efforts by replacing legacy MIL-SPEC UYS-1 with increasingly open, Commercial Off The Shelf-based architecture. Also, P-3 Sensor Integration will expand software and hardware technology of P-3 systems to integrate additional sensor and processing capabilities, environmental prediction tools, tactical decision aides, color capabilities and communications to improve aircrew tactical proficiency and battlespace awareness. Sensor Integration is a continuous effort to integrate and test newly evolving ASW and ASuW technologies such as Improved Extended Echo Ranging and Multistatic Acoustic Coherent family of Multi-Static active systems, ARCI, Non-acoustic ASW sensors and systems, and future Technical Refresh insertions for obsolescence and processing improvements. The Over the Horizon (OTH) Wideband system will provide the P-3C ASuW Improvement Program aircraft the capability to conduct OTH Satellite communications which will allow the on-station aircraft to transmit real-time sensitive acoustic intelligence data which will maximize enemy detections, tracking and engagement opportunities.

Fatigue Life Management Program is required to manage P-3/EP-3 inventory fatigue life and includes ongoing structural analysis, analyzing emergent structural issues, conducting engineering studies, assessing Fleet impact, and applying new technologies such as Non-Destructive Inspection techniques.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604221N: <i>P-3 Modernization Program</i> |
|---|---|

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 3.644 | 3.574 | 3.618 | - | 3.618 |
| Current President's Budget | 3.508 | 3.574 | 3.417 | - | 3.417 |
| Total Adjustments | -0.136 | - | -0.201 | - | -0.201 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | -0.004 | - | | | |
| • SBIR/STTR Transfer | -0.085 | - | | | |
| • Program Adjustments | - | - | -0.122 | - | -0.122 |
| • Section 219 Reprogramming | -0.047 | - | - | - | - |
| • Rate/Misc Adjustments | - | - | -0.079 | - | -0.079 |

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604221N: <i>P-3 Modernization Program</i> | PROJECT 1152: <i>P-3 Sensor Integration</i> |
|---|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|-------------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 1152: <i>P-3 Sensor Integration</i> | 1.422 | 1.469 | 1.356 | - | 1.356 | 1.388 | 1.421 | 1.450 | 1.476 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

This program provides for P-3C aircraft systems development and test in subsurface and surface surveillance, search, detection, localization, classification, attack and communications in support of Sea Shield/Sea Power 21.

The P-3C Sensor Integration project integrates advanced and future Anti-Submarine Warfare (ASW) and Anti-Surface Warfare (ASuW) sensors, weapons systems, and supporting technology into legacy P-3C systems and phased capabilities upgrades. The program also advances Air Acoustic Rapid Cots Insertion (ARCI) efforts by replacing legacy MIL-SPEC UYS-1 with increasingly open, Commercial Off The Shelf-based architecture. Also, P-3 Sensor Integration will expand software and hardware technology of P-3 systems to integrate additional sensor and processing capabilities, environmental prediction tools, tactical decision aides, color capabilities and communications to improve aircrew tactical proficiency and battlespace awareness.

Sensor Integration is a continuous effort to integrate and test newly evolving ASW and ASuW technologies such as Improved Extended Echo Ranging (IEER) and Multistatic Acoustic Coherent (MAC) family of Multi-Static active systems, ARCI, Non-acoustic ASW sensors and systems, and future Technical Refresh insertions for obsolescence and processing improvements. The Over the Horizon (OTH) Wideband system will provide the P-3C AIP aircraft the capability to conduct OTH Satellite communications which will allow the on-station aircraft to transmit real time sensitive acoustic intelligence data which will maximize enemy detections, tracking and engagement opportunities.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| Title: P-3 integration of ASW and ASuW sensors / weapon systems | 1.422 | 1.469 | 1.356 |
| Articles: | 0 | 0 | 0 |
| FY 2010 Accomplishments: Continued Sensor Integration effort to integrate and test newly evolving ASW and ASuW technologies such as IEER and MAC family of Multi-Static active systems, ARCI, Non-acoustic ASW sensors and systems, and future Technical Refresh insertions for obsolescence and processing improvements. | | | |
| FY 2011 Plans: Continue Sensor Integration effort to integrate and test newly evolving ASW and ASuW technologies such as IEER and MAC family of Multi-Static active systems, ARCI, Non-acoustic ASW sensors and systems, and future Technical Refresh insertions for obsolescence and processing improvements. | | | |
| FY 2012 Plans: | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604221N: <i>P-3 Modernization Program</i> | PROJECT 1152: <i>P-3 Sensor Integration</i> |
|---|---|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| Continue Sensor Integration effort to integrate and test newly evolving ASW and ASuW technologies such as IEER and MAC family of Multi-Static active systems, ARCI, Non-acoustic ASW sensors and systems, and future Technical Refresh insertions for obsolescence and processing improvements. | | | |
| Accomplishments/Planned Programs Subtotals | 1.422 | 1.469 | 1.356 |

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> <u>Base</u> | <u>FY 2012</u> <u>OCO</u> | <u>FY 2012</u> <u>Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
|-------------------------------|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| • APN/0538: <i>P-3 Series</i> | 455.003 | 227.982 | 171.466 | 0.000 | 171.466 | 82.917 | 38.230 | 7.439 | 7.958 | 0.000 | 4,601.495 |

D. Acquisition Strategy

The Air Deployable Active Receiver/IEER Operational Requirements Document (ORD) (Ser# 297(1)-05-97) for 1152 was approved on 29 December 1997. The P-3 ASuW Improvement Program ORD (Ser#355-88-94) for 2417 was approved on 30 March 1994. The Acquisition Plan (AIR-93-08A Rev 2) was approved on 30 March 1998. The Acquisition Strategy Review (AIR-ASR-26A Rev 3) was approved 29 Nov 1999 which includes OTH Wideband system.

E. Performance Metrics

Successfully complete Developmental Test.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604221N: <i>P-3 Modernization Program</i> | PROJECT 1152: <i>P-3 Sensor Integration</i> |
|---|---|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| Primary Hardware Development | C/FFP | LM:St. Paul, MN | 8.626 | - | | - | | - | | - | 0.000 | 8.626 | 8.626 |
| Systems Engineering | SS/CPFF | LM:Manassas, VA | 11.590 | - | | - | | - | | - | 0.000 | 11.590 | 11.590 |
| Subtotal | | | 20.216 | - | | - | | - | | - | 0.000 | 20.216 | 20.216 |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---------------------------------|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| Software Development | WR | VARIOUS:Various | 4.340 | - | | - | | - | | - | 0.000 | 4.340 | |
| Subtotal | | | 4.340 | - | | - | | - | | - | 0.000 | 4.340 | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| Developmental Test & Evaluation | WR | NAWCAD:Pax River, MD | 2.438 | - | | - | | - | | - | 0.000 | 2.438 | |
| Subtotal | | | 2.438 | - | | - | | - | | - | 0.000 | 2.438 | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| Contractor Engineering Support | WR | SPAWARSYSC:Charleston, SC | 0.263 | - | | - | | - | | - | 0.000 | 0.263 | |
| Government Engineering Support | WR | NAWCAD:Pax River, MD | 3.092 | 1.369 | Nov 2010 | 1.256 | Nov 2011 | - | | 1.256 | 5.828 | 11.545 | |
| Travel | WR | NAWCAD:Pax River, MD | 0.931 | 0.100 | Oct 2010 | 0.100 | Oct 2011 | - | | 0.100 | 0.400 | 1.531 | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604221N: <i>P-3 Modernization Program</i> | PROJECT 1152: <i>P-3 Sensor Integration</i> |
|---|---|---|

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|---|-------------------------|-------------------|------------------------------|-------------------|-------------------------|-------------------|-------------------------------|----------------------------------|-----------------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Subtotal | | | 4.286 | 1.469 | | 1.356 | | - | | 1.356 | 6.228 | 13.339 | |
| Project Cost Totals | | | Total Prior Years Cost 31.280 | FY 2011 1.469 | | FY 2012 Base 1.356 | | FY 2012 OCO - | | FY 2012 Total 1.356 | Cost To Complete 6.228 | Total Cost 40.333 | Target Value of Contract |

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604221N: *P-3 Modernization Program*

PROJECT

1152: *P-3 Sensor Integration*

| P-3 Sensor Integration | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|-------------------------------|--|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Systems Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hardware Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Software Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reviews | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test & Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Technical Evaluation | EER Multi-Static Active Sensor System Support | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | EER Multi-Static Fleet Technology Insertion | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | P-3 ARCI and Future Fleet Technology Insertion | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operational Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contract Awards | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604221N - 1152

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604221N: <i>P-3 Modernization Program</i> | PROJECT 1152: <i>P-3 Sensor Integration</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| <i>P-3 Sensor Integration</i> | | | | |
| Test & Evaluation: Technical Evaluation: EER Multi-Static Active Sensor System Support | 1 | 2010 | 4 | 2016 |
| Test & Evaluation: Technical Evaluation: EER Multi-Static Fleet Technology Insertion | 1 | 2010 | 4 | 2016 |
| Test & Evaluation: Technical Evaluation: P-3 ARCI and Future Fleet Technology Insertion | 1 | 2010 | 4 | 2016 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604221N: <i>P-3 Modernization Program</i> | PROJECT 3016: <i>Fatigue Life Mgmt Program</i> |
|---|---|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 3016: <i>Fatigue Life Mgmt Program</i> | 2.086 | 2.105 | 2.061 | - | 2.061 | 2.108 | 2.154 | 2.200 | 2.241 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Fatigue Life Management Program is required to manage P-3/EP-3 inventory fatigue life and includes ongoing structural analysis, analyzing emergent structural issues, conducting engineering studies, assessing Fleet impact, and applying new technologies such as Non-Destructive Inspection techniques.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|--|---------|---------|---------|
| Title: P-3/EP-3 Fatigue Life Management | 2.086 | 2.105 | 2.061 |
| Articles: | 0 | 0 | 0 |
| FY 2010 Accomplishments: Fatigue Life Management Program: Managed P-3/EP-3 inventory fatigue life including conducted structural analysis, analyzed structural issues, conducted engineering studies, assessed Fleet impact. Researched, tested and applied new Fatigue Inspection techniques to the P-3/EP-3 Fleet. | | | |
| FY 2011 Plans: Fatigue Life Management Program: Manage P-3/EP-3 inventory fatigue life including conducting structural analysis, analyzing structural issues, conducting engineering studies, assessing Fleet impact. Research, test and apply new Fatigue Inspection techniques to the P-3/EP-3 Fleet. | | | |
| FY 2012 Plans: Fatigue Life Management Program: Manage P-3/EP-3 inventory fatigue life including conducting structural analysis, analyzing structural issues, conducting engineering studies, assessing Fleet impact. Research, test and apply new Fatigue Inspection techniques to the P-3/EP-3 Fleet. | | | |
| Accomplishments/Planned Programs Subtotals | 2.086 | 2.105 | 2.061 |

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604221N: <i>P-3 Modernization Program</i> | PROJECT 3016: <i>Fatigue Life Mgmt Program</i> |

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> | | | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> | |
|-------------------------------|----------------|----------------|----------------|------------|--------------|----------------|----------------|----------------|----------------|-----------------|-------------------|
| | | | <u>Base</u> | <u>OCO</u> | <u>Total</u> | | | | | <u>Complete</u> | <u>Total Cost</u> |
| • APN/0538: <i>P-3 Series</i> | 455.003 | 227.982 | 171.466 | 0.000 | 171.466 | 82.917 | 38.230 | 7.439 | 7.958 | 0.000 | 4,601.495 |

D. Acquisition Strategy

The Fatigue Life Management Program leverages off of prior work done under P-3 Service Life Extension Program (2451). The Anti-Surface Warfare Improvement Program Operational Requirements Documents 355-88-94 was approved 30 March 94. Work will be performed by Lockheed Martin Aeronautical Systems (LMAS) and other industry participants along with the NAVAIR Structural Engineering Dept, AIR-4.3. This program supports the 7 June 2003 CNO approved P-3/EP-3 Sustainment Bridge to Multi-Mission Maritime Aircraft.

E. Performance Metrics

Successful application of system engineering processes.

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604221N: <i>P-3 Modernization Program</i> | PROJECT 3016: <i>Fatigue Life Mgmt Program</i> |
|---|---|--|

| Fatigue Life Mgmt Program | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|-------------------------------|---|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Systems Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hardware Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Software Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reviews | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test & Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Technical Evaluation | Inventory Fatigue Life Management/Sustainment | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operational Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contract Awards | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604221N - 3016

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604221N: <i>P-3 Modernization Program</i> | PROJECT 3016: <i>Fatigue Life Mgmt Program</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| <i>Fatigue Life Mgmt Program</i> | | | | |
| Test & Evaluation: Technical Evaluation: Inventory Fatigue Life Management/ Sustainment | 1 | 2010 | 4 | 2016 |

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | | | | R-1 ITEM NOMENCLATURE | | | | | | | |
|---|----------------|----------------|---------------------|--|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | PE 0604230N: <i>Warfare Support System</i> | | | | | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| Total Program Element | 6.796 | 3.733 | 9.944 | - | 9.944 | 10.158 | 9.813 | 10.548 | 10.770 | Continuing | Continuing |
| 3326: <i>NIWO Rapid Capabilities Development for CIC</i> | - | - | 5.279 | - | 5.279 | 5.417 | 5.561 | 5.736 | 5.925 | Continuing | Continuing |
| 4011: <i>Naval Coastal Warfare Surv and C4I Sys</i> | 6.796 | 3.733 | 4.170 | - | 4.170 | 3.750 | 3.263 | 3.823 | 3.855 | Continuing | Continuing |
| 9C86: <i>Combatant Craft Replacement</i> | - | - | 0.495 | - | 0.495 | 0.991 | 0.989 | 0.989 | 0.990 | Continuing | Continuing |

A. Mission Description and Budget Item Justification

The Naval Coastal Warfare (NCW) community consists of 22 Mobile Inshore Undersea Warfare (MIUW) units and 8 Harbor Defense Command (HDC) units operating Mobile Ashore Support Terminal IIIs (MAST IIIs). NCW also includes 14 Inshore Boat Units (IBU) comprised of 6 small craft (boats) each on which are installed C4I systems. The Mobile Inshore Undersea Warfare - System Upgrade (MIUW-SU), the primary system used by the NCW MIUW Units, is the only land-based and rapidly deployable mobile Navy system with the ability to conduct surface and subsurface surveillance in coastal and littoral areas. The system provides detailed contact information via various C4I systems to the tactical area commander based on radar, visual, thermal, electronic, and underwater acoustic sensor information. Missions supported with the MIUW-SU's are: OCONUS and INCONUS Force Protection, protecting port areas, high value assets, and surveilling the near shore areas. The MAST III is the C4ISR hub for the NCW Commander. MAST IIIs deploy to support Force Protection/Force Security Officer for Commander, Amphibious Group in its Harbor Defense and Coastal Sea Control missions.

In the aftermath of the attack on USS COLE and particularly post 11 SEP, the role, structure, and utilization for the NCW program has changed appreciably and continues to evolve in the face of developing world events. However, the core competencies resident in expeditionary NCW forces to conduct surveillance, C4I and patrol/interdiction have not changed.

NCW remains a specialized force constituted to accomplish specific tasks under specific conditions, but also agile enough to fill emergent and non-traditional roles. Post 11 SEP, NCW Groups and Units have been mobilized to perform force protection missions at different levels in all CinC area of responsibility (AOR)'s and within the continental United States in support of Maritime Homeland Security. This RDT&E exhibit supports the future direction of Naval Coastal Warfare as it is being determined externally by world events and internally by the progress of DoD initiatives to replace Cold War forces and capabilities with 21st century transformational forces and capabilities. NCW forces currently field legacy systems designed to counter more traditional military threats in a two Major Theater War scenario. Future NCW forces will develop into a highly effective, relatively low cost transformational force capable of operating anywhere in the world to perform a spectrum of force protection missions ranging from full scale port security/harbor defense operations during wartime to short duration point defense of high value units or facilities in operations other than war. This transformational force will be agile, tailorable, and scalable and will use applied technology to quickly detect, deter or interdict potential threats to DoN assets in the littoral environment. Next generation surface and subsurface surveillance systems, as well as enhanced C4I capabilities, are required to meet these operational objectives. These capabilities must be interoperable with higher and adjacent echelons of command (to include coalition allies) as well as with supporting elements to include joint forces.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy DATE: February 2011

| APPROPRIATION/BUDGET ACTIVITY | R-1 ITEM NOMENCLATURE |
|---|--|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | PE 0604230N: <i>Warfare Support System</i> |

Sea Eagle is an Advanced Concept Technology Demonstration (ACTD) with USN as lead service and USSOCOM as the Combatant Command sponsor. Sea Eagle will provide integrated and enhanced technologies in order to provide persistent, clandestine, and unattended monitoring of denied and sensitive maritime, littoral, and harbor areas. These sensors and systems will be deliverable by Special Operational Forces (SOF) and networked in a multi-media (sea, air, land) system of systems approach. Sea Eagle will focus on close access networking, both wireless through air and underwater, to support networked tactical sensors. The special operations warfighter will tactically emplace Sea Eagle systems to provide targeted, tactical information that complements national and theater intelligence assets to enable a layered intelligence collection strategy.

Riverine Force will integrate and employ a variety of surface and air assets, special vehicles, weapons and appropriately trained personnel. Mission assets needed to support the operational capabilities will vary widely dependant on the Host Nations involved. The Riverine Squadron will deploy with inherent, but limited, force protection capabilities. The Modular Unmanned Scouting Craft Littoral (MUSCL) is man-portable "X-Class" Unmanned Surface Vehicle providing enhanced surveillance and reconnaissance capability to Naval Expeditionary Combat Command (NECC) Riverine forces.

Regional Maritime Awareness Capability (RMAC) - support GWOT by providing other USG Agencies with maritime traffic information that is not currently available. RMAC also provides enhanced regional security, safety, economic stability and environmental protection through shared maritime domain awareness (MDA).

Naval Irregular Warfare Office (NIWO) will provide for the identification and assessment of available technologies to confront irregular challenges supporting the warfighter. It provides for the validation and combat demonstration of identified technologies and/or packages of technologies to meet warfighter goals via: field and/or lab testing/demonstration; independent mission testing/demonstration and/or; coordinated mission testing/demonstration. The goal of the NIWO office is to identify those requirements necessary to meet the immediate warfighter needs, integrate those existing unique and/or related capabilities that can best meet those warfighter needs, test those integrated capabilities, and then demonstrate in real time and/or during planned deployments all within an 8 month period. Those areas of capability to be investigated include persistent ISR, close-in expeditionary ISR, conventional forces support to SOF, rotary wing support to SOF, all source intelligence fusion and littoral precision strike capability.

UNCLASSIFIED

| | |
|---|----------------------------|
| Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy | DATE: February 2011 |
|---|----------------------------|

| | |
|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604230N: <i>Warfare Support System</i> |
|---|--|

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 6.280 | 3.733 | 3.591 | - | 3.591 |
| Current President's Budget | 6.796 | 3.733 | 9.944 | - | 9.944 |
| Total Adjustments | 0.516 | - | 6.353 | - | 6.353 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | 0.750 | - | | | |
| • SBIR/STTR Transfer | -0.219 | - | | | |
| • Program Adjustments | - | - | 6.553 | - | 6.553 |
| • Section 219 Reprogramming | -0.016 | - | - | - | - |
| • Rate/Misc Adjustments | - | - | -0.200 | - | -0.200 |
| • Congressional General Reductions Adjustments | 0.001 | - | - | - | - |

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604230N: <i>Warfare Support System</i> | PROJECT 3326: <i>NIWO Rapid Capabilities Development for CIC</i> |
|---|--|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 3326: <i>NIWO Rapid Capabilities Development for CIC</i> | - | - | 5.279 | - | 5.279 | 5.417 | 5.561 | 5.736 | 5.925 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Navy Irregular Warfare will provide for the validation and combat demonstration of identified technologies and/or packages of technologies to meet warfighter goals. Identify requirements necessary to meet the immediate warfighter needs, integrate those existing unique and/or related capabilities that can best meet the warfighter needs, test those integrated capabilities and then demonstrate in real time and/or during planned deployments all within an 8 month period.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|--------------|-------------|---------------|
| Title: Navy Irregular Warfare | - | - | 5.279 | - | 5.279 |
| Articles: | | | 0 | | 0 |
| FY 2012 Base Plans: To identify, assess, integrate and test available technologies to confront irregular challenges supporting the warfighter. Also validate and demonstrate identified technologies. | | | | | |
| Accomplishments/Planned Programs Subtotals | - | - | 5.279 | - | 5.279 |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

To successfully conduct technology reviews to confront irregular warfare.
To successfully identify and validate identified technologies.

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604230N: <i>Warfare Support System</i> | PROJECT 3326: <i>NIWO Rapid Capabilities Development for CIC</i> |
|---|--|--|

| Proj 3326 | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | | | | | |
|--------------------|--------------------------------------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|--|--|--|--|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | | | | |
| System Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Technology Assessments/Demostrations | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Test and Evaluations | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604230N - 3326

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604230N: <i>Warfare Support System</i> | PROJECT 3326: <i>NIWO Rapid Capabilities Development for CIC</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 3326 | | | | |
| System Development: Technology Assessments/Demonstrations | 1 | 2012 | 4 | 2016 |
| System Development: Test and Evaluations | 1 | 2012 | 4 | 2016 |

UNCLASSIFIED

| | | | | | | | | | | | |
|---|----------------|----------------|---------------------|--|----------------------|----------------|----------------|---|----------------------------|-------------------------|-------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | | | | | | | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | R-1 ITEM NOMENCLATURE PE 0604230N: <i>Warfare Support System</i> | | | | PROJECT 4011: <i>Naval Coastal Warfare Surv and C4I Sys</i> | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| 4011: <i>Naval Coastal Warfare Surv and C4I Sys</i> | 6.796 | 3.733 | 4.170 | - | 4.170 | 3.750 | 3.263 | 3.823 | 3.855 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

The Maritime Expeditionary Security Force (MESF), formerly Naval Coastal Warfare (NCW), consists of two Groups and ten Squadrons; nine regular and one special (Guam). Each squadron is organized by Boat Detachments, Security Detachments and Command and Control (C2) divisions. The C2 Division is comprised of Sensor Detachments (SENSEDET) operating the Radar Sonar Surveillance Center (RSSC) and Communications Detachments (COMMSDET) operating the Mobile Ashore Support Terminal (MAST IIIs), each separately funded. The Radar Sonar Surveillance Center (RSSC) is the only land-based and rapidly deployable mobile Navy system with the ability to conduct surface and subsurface surveillance in coastal and littoral areas. The system provides detailed contact information via various C4I systems to the tactical area commander based on radar, visual, thermal, electronic, and underwater acoustic sensor information. Missions supported with the MIUW-RSSCs are: OCONUS and INCONUS Force Protection, protecting port areas, high value assets, and surveilling the near shore areas. The MAST III is the C4ISR hub for the NCW Commander. MAST IIIs deploy to support Force Protection/Force Security Officer for Commander, Amphibious Group in its Harbor Defense and Coastal Sea Control missions.

As stated in the Maritime Expeditionary Security Force (MESF) CONOPS dated 11 April 2007: The MESF organization will be established through realignment of the Naval Coastal Warfare (NCW) organizations (NCW Squadrons, Mobile Inshore Undersea Warfare Units, Inshore Boat Units, Mobile Security Squadrons, Mobile Security Detachments, Embarked Security Detachments, and Embarked Security Teams) into the MESF structure. Further realignment will result in the integration of intelligence, VBSS, and additional waterborne and security detachments to support new mission capability and provide additional NCC / JFMCC capacity. In addition to enhancing readiness of the current force, MESF will deploy adaptive force packages (AFPs) tailored for the specific missions to achieve greater efficiency and combat readiness than the current NCW force. By establishing a professional warfare community and dedicated Maritime Expeditionary Security Force capable of meeting the full range of security requirements, MESF closes a critical gap essential to full mission readiness for MSO. MESF provides a structure that establishes a single integrated maritime security force with one standard for training, certification, employment, and tactics, techniques, and procedures (TTP). This funding supports the future direction of the MESF as it is being determined externally by world events and internally by the progress of DoD initiatives to replace Cold War forces and capabilities with 21st century transformational forces and capabilities. The associated developmental efforts will ultimately transition into an adaptive force package Navy Expeditionary Security System (NESS). MESF forces currently field legacy systems designed to counter more traditional military threats in a two Major Theater War scenario. Future MESF units will develop into a highly effective, relatively low cost transformational force capable of operating anywhere in the world to perform a spectrum of force protection missions ranging from full scale port security/harbor defense operations during wartime to short duration point defense of high value units or facilities in operations other than war. This transformational force will be agile, tailorable, and scalable and will use applied technology to quickly detect, deter or

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604230N: <i>Warfare Support System</i> | PROJECT 4011: <i>Naval Coastal Warfare Surv and C4I Sys</i> |
|---|--|---|

interdict potential threats to DoN assets in the littoral environment. Next generation surface and subsurface surveillance systems, as well as enhanced C4I capabilities, are required to meet these operational objectives. These capabilities must be interoperable with higher and adjacent echelons of command (to include coalition allies) as well as with supporting elements to include joint forces.

The Expeditionary Warfare Decision System (EWDS) (formerly Tactically Integrated Sensors (TIS)) software constitutes an upgrade to the MAST-RSSC and is being executed as a separate Abbreviated Acquisition Program. The AAP will enable the deployment of a currently fielded Program of Record (POR) combat system (AN/SQQ-34C) known as Tactically Integrated Sensors (TIS) to the MESF units. TIS system restores the acoustic surveillance capability that has been eroded from the current RSSC suite. Additionally, future multi-spectral technologies are being looked at as enabling capabilities to expand the situational awareness of the littoral region, providing additional tactical decision aids to the local area commander.

This funding supports the Identity Dominance System (IDS) as key enabler in support of the Joint Personnel Identity (JPI) program. OPNAV N857 conducted the NCW CBA and MES ICD. MESF forces have a mobile security mission that requires methodologies, procedures, equipment and the communications capacity to identify individuals who represent a potential threat as a means to deter and eliminate individuals from conducting asymmetric/non-traditional attacks upon friendly forces, high value assets and coastal areas that NCW is charged with protecting. The Vessel Boarding Search and Seizure (VBSS) teams conducting Expanded Maritime Interception Operations also have a similar requirement to identify individuals. The development of a device to support identity functions is captured in the Identity Dominance System Capability Development Document (IDS CDD). IDS will be used in the following environments: aboard ship and ashore in ports, the littorals and extended inland field environments worldwide. IDS will be employed in maritime and very austere ashore environments and carried by individuals who are part of ship boarding parties and dismounted patrols. These mission and environmental demands dictate a portable, lightweight, rugged, and reliable system with intuitive and user friendly features. IDS biometric modalities may differ by mission profile, requiring the authoritative response to the On-Scene Commander/Boarding Officer on whether to detain or further investigate an individual of interest.

Riverine Force will integrate and employ a variety of surface and air assets, special vehicles, weapons and appropriately trained personnel. Mission assets needed to support the operational capabilities will vary widely dependant on the Host Nations involved. The Riverine Squadron will deploy with inherent, but limited, force protection capabilities. The Modular Unmanned Scouting Craft Littoral (MUSCL), is man-portable "X-Class" Unmanned Surface Vehicle providing enhanced surveillance and reconnaissance capability to Naval Expeditionary Combat Command (NECC) Riverine forces.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|---------|---------|--------------|-------------|---------------|
| Title: MESF (Formerly NCW) Upgrades | 3.032 | 0.877 | 2.429 | - | 2.429 |
| Articles: | 0 | 0 | 0 | | 0 |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604230N: <i>Warfare Support System</i> | PROJECT 4011: <i>Naval Coastal Warfare Surv and C4I Sys</i> |
|---|--|---|

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|------------|------------|--------------|-------------|---------------|
| <p><i>FY 2010 Accomplishments:</i> MESF Upgrades - Researched and developed next generation NCW surveillance and C4I systems capabilities, to include new or improved Tactical Command and Control system, Electronic Systems Management, Under-Sea surveillance, Acoustic tracking of surface contacts, Data Fusion, Autonomous Sensors, Small Craft Situational Awareness/Combat ID, improved IR cameras, auto detect and track software, and improved data recording technologies. The next generation capabilities are based on the requirements in the Maritime Expeditionary Security Initial Capability Document (MES ICD). The Modular Unmanned Scouting Craft Littoral (MUSCL), is man-portable "X-Class" Unmanned Surface Vehicle will provide enhanced surveillance and reconnaissance capability to Naval Expeditionary Combat Command (NECC) Riverine forces. MUSCL will be developed, tested, and delivered (3 systems) to NECC Forces.</p> <p>Continued development of the Tactically Integrated Sensors, Abbreviated Acquisition Program (TIS AAP) to modify and transition an ASW combat system software tool to the MESF Forces. Provided system engineering and software/system integration activities with next generation C4ISR systems and sensors with a specific focus on the transition of the Improved Imaging Technology (IIT) Future Naval Capability sensor systems. The IIT FNC supports the MESF role in Maritime Domain Awareness and is a capability need for the Integrated Swimmer Defense program. Provided program management support to transition next generation MESF capabilities based on the Maritime Expeditionary Security Initial Capabilities Document (MES ICD).</p> <p><i>FY 2011 Plans:</i> MESF Upgrades - Continue research and development efforts to integrate emerging C4I technologies into MES units. Efforts will focus on improved satellite communications, integration with the next generation of naval networks and improvements to network security applications. The next generation capabilities are based on the requirements in the Maritime Expeditionary Security Initial Capability Document (MES ICD).</p> <p><i>FY 2012 Base Plans:</i> MESF Upgrades - Provide management support and development of new C4ISR capabilities for Naval Coastal Warfare forces.</p> | | | | | |
| <p><i>Title:</i> Identity Dominance System</p> <p align="right"><i>Articles:</i></p> | 3.764 0 | 2.856 0 | 1.741 0 | - | 1.741 0 |
| <p><i>FY 2010 Accomplishments:</i></p> | | | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604230N: <i>Warfare Support System</i> | PROJECT 4011: <i>Naval Coastal Warfare Surv and C4I Sys</i> |
|---|--|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|--------------|-------------|---------------|
| Identity Dominance System - Program Management acquisition preparations for a Milestone C for the IDS program of record and the design and development of the IDS device. Additional efforts focused on systems engineering and hardware/software integration of the Identity Dominance System device. <i>FY 2011 Plans:</i> Identity Dominance System - Program Management acquisition preparations for a Milestone C for the IDS program of record and continued development of the IDS hardware and software. Additional efforts will focus on developmental and operational testing of the Identity Dominance System system in preparation for Full Rate Production. <i>FY 2012 Base Plans:</i> Identity Dominance System - Program Management acquisition preparations for a Milestone C for the IDS program of record and the design and development of the IDS device. Additional efforts will focus on continued developmental and operational testing of the Identity Dominance System and Full Rate Production. | | | | | |
| Accomplishments/Planned Programs Subtotals | 6.796 | 3.733 | 4.170 | - | 4.170 |

| C. Other Program Funding Summary (\$ in Millions) | | | | | | | | | | | |
|---|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|-------------------------|-------------------|
| <u>Line Item</u> | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | <u>Cost To Complete</u> | <u>Total Cost</u> |
| • 0203422N/8120: <i>Maritime Expeditionary Security Force</i> | 18.476 | 5.317 | 0.136 | 14.680 | 14.816 | 5.858 | 7.623 | 7.399 | 7.516 | 0.000 | 67.005 |
| • 0208147N/81281: <i>Physical Security Equipment</i> | 0.030 | 0.030 | 1.830 | 0.000 | 1.830 | 3.158 | 3.186 | 3.186 | 3.186 | 0.000 | 14.606 |

D. Acquisition Strategy
 MESF (formerly NCW) - There are ten (10) MESF MAST III systems and twenty (20) MIUW-RSSC systems. The Naval Coastal Warfare systems, the Mobile Ashore Support Terminal (MAST III) and the MIUW Radar Sonar Surveillance Center (RSSC) AN/TSQ-108A(V)4 MOD 2 require the production of Engineering Change Packages (ECPs) for the purposes of technology refresh and to mitigate the impact of obsolescent components. This issue supports the development and testing of the ECP kits as well as the procurement of material of initial kits involved in testing. For the MAST III systems - AN/USC-60 baseband equipment upgrades and GCCS-M upgrades. Timeplex are no longer supported and will need to be replaced with Promina multiplexers. For the MIUW systems - The key effort in FY10 is to provide an IP connectivity path using 1) VSAT for short ops requiring quick set ups using commercial SATCOM and 2) USC-67 (triband SHF) for longer ops using MILSATCOM. This IP capability is required because Navy legacy

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy DATE: February 2011

| APPROPRIATION/BUDGET ACTIVITY | R-1 ITEM NOMENCLATURE | PROJECT |
|---|--|---|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | PE 0604230N: <i>Warfare Support System</i> | 4011: <i>Naval Coastal Warfare Surv and C4I Sys</i> |

circuits that MIUW relies on (i.e. OTCIXS, CUDIXS, Fleet Broadcast) are being ceased in FY11 and transitioning to IP circuits (i.e. DMS Proxy, Assured IP). GCCS-M upgrades from 3.x to 4.x (or Maritime Tactical Services) will be required as 3.x will not be supported after FY10.

IDS - The fundamental purpose of the IDS program is to provide the Navy and Marine Corps with an integrated and ruggedized capability to employ individual-oriented identity information in the conduct of maritime and expeditionary operations. Fieldable prototypes in response to the CENTCOM JUONS were evaluated in limited user assessments and

under stringent to meet Naval operational effectiveness and suitability. Additionally, a market survey conducted and concluded that no COTS or GOTS systems could meet the requirements in the IDS/JPI(V)1 program is planned to enter System Demonstration (SD) at Milestone B in 4QTR FY10, and the SD phase is planned to culminate in a Milestone C

decision in 1QTR FY12. The SBIR process was executed in a Phase I initiative as a risk mitigation step to enable the EMD Phase II process in developmental testing, design refinement, production representative level articles for evaluation/selection, and logistical support preparations to formulate the production decision. Production will be accomplished via a prime contractor to be selected during a competitive contracting process.

E. Performance Metrics

MESF: Successfully complete Preliminary Design Review (PDR), Critical Design Review (CDR) and Physical Configuration Audit (PCA) for Expeditionary Warfare Decision System (EWDS) (formerly Tactically Integrated Sensor (TIS)).

IDS: Conduct Milestone reviews in order to successfully achieve Milestone B and C. Successfully achieve IOC.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604230N: <i>Warfare Support System</i> | PROJECT 4011: <i>Naval Coastal Warfare Surv and C4I Sys</i> |
|---|--|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Hardware/Software Development | C/CPFF | SSC CH:SSC SAN DIEGO | 0.100 | - | | - | | - | | - | 0.000 | 0.100 | Continuing |
| Hardware/Software Development | WR | NSWC DAHLGREN:DAHLGREN | 3.050 | 0.200 | Feb 2011 | 0.200 | Feb 2012 | - | | 0.200 | Continuing | Continuing | Continuing |
| Hardware/Software Development | WR | NSWC CRANE:CRANE | 0.750 | 0.150 | Feb 2011 | 0.200 | Feb 2012 | - | | 0.200 | 0.000 | 1.100 | Continuing |
| Systems Engineering1 | C/CPFF | SSC CH:SSC SAN DIEGO | 0.547 | - | | - | | - | | - | 0.000 | 0.547 | Continuing |
| Systems Engineering2 | WR | SSC CH:SSC SAN DIEGO | 0.600 | 0.150 | Feb 2011 | - | | - | | - | 0.000 | 0.750 | Continuing |
| Systems Engineering3 | WR | NUWC:KEYPORT | 0.700 | 0.150 | Feb 2011 | - | | - | | - | 0.000 | 0.850 | Continuing |
| Systems Engineering4 | WR | NSMRL:Not Specified | 0.100 | - | | - | | - | | - | 0.000 | 0.100 | Continuing |
| Systems Engineering5 | C/CPFF | SSC SD:SAN DIEGO | 6.647 | - | | - | | - | | - | 0.000 | 6.647 | Continuing |
| Systems Engineering6 | WR | NSWC:DAHLGREN | 2.300 | 0.150 | Feb 2011 | 0.500 | Feb 2012 | - | | 0.500 | 0.000 | 2.950 | Continuing |
| Systems Engineering7 | WR | NUWC:NEWPORT | - | 0.080 | Feb 2011 | 0.200 | Feb 2012 | - | | 0.200 | 0.000 | 0.280 | Continuing |
| Training Development | WR | SSC CH:SSC SAN DIEGO | 0.401 | - | | - | | - | | - | 0.000 | 0.401 | Continuing |
| Test Integration | WR | NUWC:KEYPORT | 0.819 | - | | - | | - | | - | 0.000 | 0.819 | Continuing |
| Test Integration | WR | NSWC:CRANE | 0.200 | - | | - | | - | | - | 0.000 | 0.200 | Continuing |
| Subtotal | | | 16.214 | 0.880 | | 1.100 | | - | | 1.100 | | | |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Technical Data | WR | SSC CH/SSC SD:SSC SAN DIEGO | 0.301 | 0.080 | Feb 2011 | 0.100 | Feb 2012 | - | | 0.100 | 0.000 | 0.481 | Continuing |
| Technical Data | WR | NSWC:CRANE | 0.250 | - | | - | | - | | - | 0.000 | 0.250 | Continuing |
| Technical Data | WR | NUWC:KEYPORT | 0.200 | 0.050 | Feb 2011 | 0.170 | Feb 2012 | - | | 0.170 | 0.000 | 0.420 | Continuing |
| Technical Data | MIPR | | 0.175 | - | | - | | - | | - | 0.000 | 0.175 | Continuing |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604230N: <i>Warfare Support System</i> | PROJECT 4011: <i>Naval Coastal Warfare Surv and C4I Sys</i> |
|---|--|---|

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| | | Coast Guard:Not Specified | | | | | | | | | | | |
| Technical Data | WR | NSWC:DAHLGREN | - | 0.175 | Feb 2011 | - | | - | | - | 0.000 | 0.175 | Continuing |
| Test Planning | WR | NUWC:KEYPORT | 0.100 | 0.100 | Feb 2011 | 0.090 | Feb 2012 | - | | 0.090 | 0.000 | 0.290 | Continuing |
| Test Planning | WR | NSWC:CRANE | 0.250 | 0.100 | Feb 2011 | 0.150 | Feb 2012 | - | | 0.150 | 0.000 | 0.500 | Continuing |
| Test Planning | WR | SSC CH/:SSC SAN DIEGO | 0.100 | 0.100 | Feb 2011 | 0.250 | Feb 2012 | - | | 0.250 | 0.000 | 0.450 | Continuing |
| Test Planning - Non-Lethal | WR | NSWC:DAHLGREN | 0.500 | 0.250 | Feb 2011 | 0.150 | Feb 2012 | - | | 0.150 | 0.000 | 0.900 | Continuing |
| Test Planning - IDS | WR | NSWC:DAHLGREN | 0.300 | 0.150 | Feb 2011 | 0.250 | Feb 2012 | - | | 0.250 | 0.000 | 0.700 | Continuing |
| Subtotal | | | 2.176 | 1.005 | | 1.160 | | - | | 1.160 | 0.000 | 4.341 | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Program Management Support | WR | SSC CH:SSC SAN DIEGO | 0.111 | 0.100 | Feb 2011 | 0.200 | Feb 2012 | - | | 0.200 | 0.000 | 0.411 | Continuing |
| Program Management Support | WR | NUWC:KEYPORT | 0.100 | - | | - | | - | | - | 0.000 | 0.100 | Continuing |
| Program Management Support | WR | NSWC:DAHLGREN | 1.942 | 1.000 | Feb 2011 | 0.703 | Feb 2012 | - | | 0.703 | 0.000 | 3.645 | Continuing |
| Program Management Support | WR | NSWC:CRANE | 0.402 | 0.160 | Feb 2011 | 0.250 | Feb 2012 | - | | 0.250 | 0.000 | 0.812 | Continuing |
| Program Management Support | Various | Various:Various | 1.920 | 0.558 | Feb 2011 | 0.727 | Feb 2012 | - | | 0.727 | 0.000 | 3.205 | Continuing |
| Travel | Various | Various:Various | 0.055 | 0.030 | Feb 2011 | 0.030 | Feb 2012 | - | | 0.030 | 0.000 | 0.115 | Continuing |
| DAWDF | Various | Not Specified:Not Specified | 0.040 | - | | - | | - | | - | 0.000 | 0.040 | Continuing |
| Subtotal | | | 4.570 | 1.848 | | 1.910 | | - | | 1.910 | 0.000 | 8.328 | |

UNCLASSIFIED

UNCLASSIFIED

| | | | | | | | | | |
|---|-------------------------------|----------------|--|--------------------|----------------------|---|----------------------------|---------------------------------|--|
| Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy | | | | | | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | R-1 ITEM NOMENCLATURE PE 0604230N: <i>Warfare Support System</i> | | | PROJECT 4011: <i>Naval Coastal Warfare Surv and C4I Sys</i> | | | |
| | Total Prior Years Cost | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract | |
| Project Cost Totals | 22.960 | 3.733 | 4.170 | - | 4.170 | | | | |

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

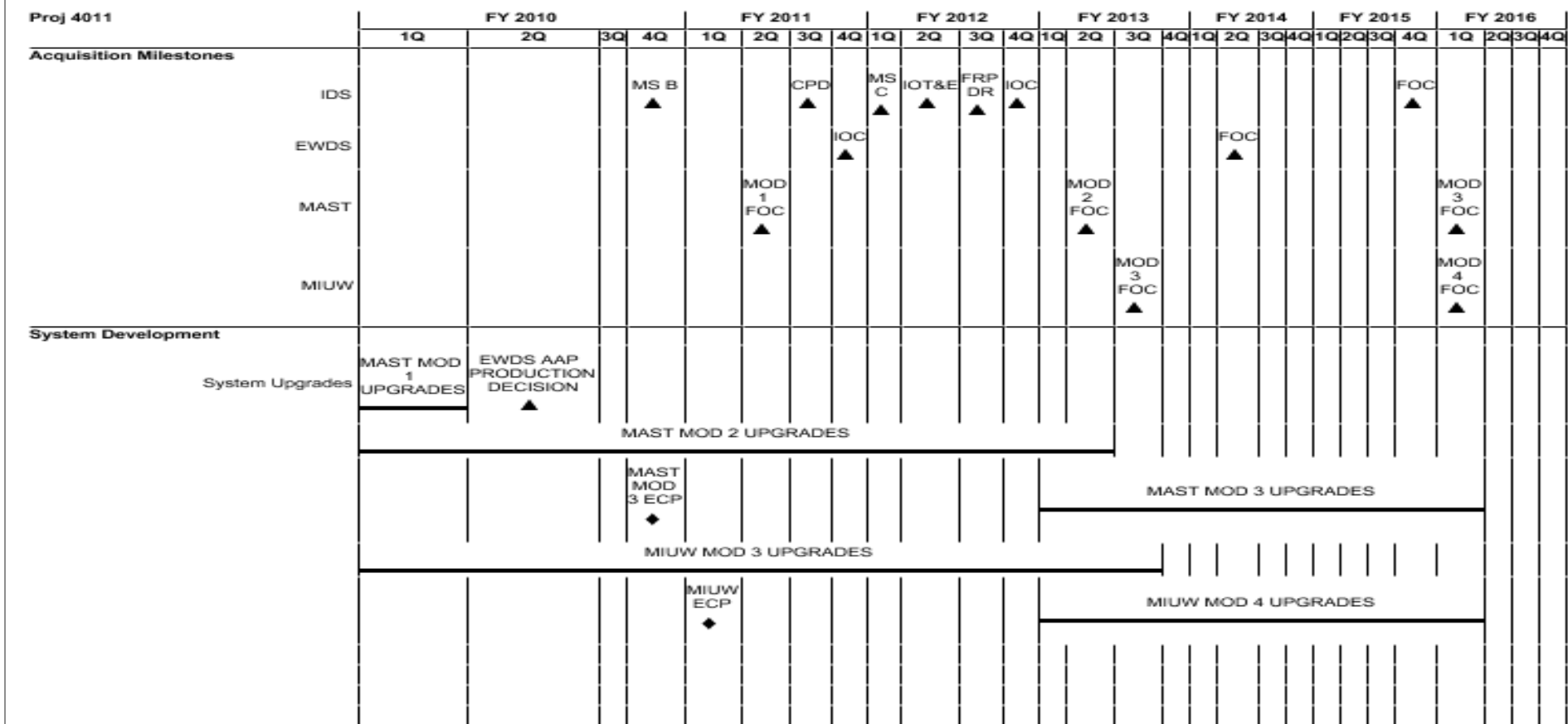
1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604230N: *Warfare Support System*

PROJECT

4011: *Naval Coastal Warfare Surv and C4I Sys*



2012PB - 0604230N - 4011

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604230N: <i>Warfare Support System</i> | PROJECT 4011: <i>Naval Coastal Warfare Surv and C4I Sys</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 4011 | | | | |
| Acquisition Milestones: IDS: IDS MILESTONE B | 4 | 2010 | 4 | 2010 |
| Acquisition Milestones: IDS: IDS MILESTONE C | 1 | 2012 | 1 | 2012 |
| Acquisition Milestones: IDS: IDS CPD | 3 | 2011 | 3 | 2011 |
| Acquisition Milestones: IDS: IDS IOT&E | 2 | 2012 | 2 | 2012 |
| Acquisition Milestones: IDS: IDS FRP DR | 3 | 2012 | 3 | 2012 |
| Acquisition Milestones: IDS: IDS IOC | 4 | 2012 | 4 | 2012 |
| Acquisition Milestones: IDS: IDS FOC | 4 | 2015 | 4 | 2015 |
| Acquisition Milestones: EWDS: EWDS (formerly TIS) AAP IOC | 4 | 2011 | 4 | 2011 |
| Acquisition Milestones: EWDS: EWDS (formerly TIS) AAP FOC | 2 | 2014 | 2 | 2014 |
| Acquisition Milestones: MAST: MAST III MOD 1 FOC | 2 | 2011 | 2 | 2011 |
| Acquisition Milestones: MAST: MAST III MOD 2 FOC | 2 | 2013 | 2 | 2013 |
| Acquisition Milestones: MAST: MAST III MOD 3 FOC | 1 | 2016 | 1 | 2016 |
| Acquisition Milestones: MIUW: MIUW v4 MOD 3 FOC | 3 | 2013 | 3 | 2013 |
| Acquisition Milestones: MIUW: MIUW v4 MOD 4 FOC | 1 | 2016 | 1 | 2016 |
| System Development: System Upgrades: EWDS (formerly TIS) AAP PRODUCTION DECISION | 2 | 2010 | 2 | 2010 |
| System Development: System Upgrades: MAST III MOD 1 UPGRADES | 1 | 2010 | 1 | 2010 |
| System Development: System Upgrades: MAST III MOD 2 UPGRADES | 1 | 2010 | 2 | 2013 |
| System Development: System Upgrades: MAST III MOD 3 UPGRADES | 1 | 2013 | 1 | 2016 |
| System Development: System Upgrades: MAST III MOD 3 ECP APPROVAL | 4 | 2010 | 4 | 2010 |
| System Development: System Upgrades: MIUW v4 MOD 3 UPGRADES | 1 | 2010 | 3 | 2013 |
| System Development: System Upgrades: MIUW v4 ECP APPROVAL | 1 | 2011 | 1 | 2011 |

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604230N: <i>Warfare Support System</i> | PROJECT 4011: <i>Naval Coastal Warfare Surv and C4I Sys</i> |

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| System Development: System Upgrades: MIUW v4 MOD 4 UPGRADES | 1 | 2013 | 1 | 2016 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604230N: <i>Warfare Support System</i> | PROJECT 9C86: <i>Combatant Craft Replacement</i> |
|---|--|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 9C86: <i>Combatant Craft Replacement</i> | - | - | 0.495 | - | 0.495 | 0.991 | 0.989 | 0.989 | 0.990 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Combatant Craft Replacements will provide second generation Riverine Multi Mission Craft that will replace in-service Riverine Patrol Boats (RPBs) and Riverine Assault Boats (RABs). Combatant Craft replacements will: conduct inland waterway patrol and interdiction to preserve the rivers for friendly use as lines of communications; deny the use of rivers and waterways to waterborne and immediate shore sited hostile forces by barrier and interdiction operations; and, with augmentation of ground and air forces, locate and destroy hostile forces within a riparian area. Specific mission and capabilities will be identified in an NECC developed/OPNAV N85 approved Initial Capabilities Document (ICD). RDT&E funding will fund feasibility studies and procurement of mock-ups and prototype craft to demonstrate capabilities prior to production craft procurement.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|---------|---------|--------------|-------------|---------------|
| Title: Combatant Craft Replacement | - | - | 0.495 | - | 0.495 |
| Articles: | | | 0 | | 0 |
| FY 2012 Base Plans: Conduct Future Combatant Craft feasibility design study(ies). Evaluate transition potential of the Riverine Patrol Boat (RPB) Advance Weapon Systems to interface with the Riverine Assault Boat (RAB), Riverine Command Boat (RCB) and Force Protection-Coastal (FP-C). | | | | | |
| Accomplishments/Planned Programs Subtotals | - | - | 0.495 | - | 0.495 |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

Acquisition of RDT&E funded mockup and prototype craft for testing to be accomplished using "tailored" GSA procurements in accordance with a PMS325G approved/OPNAV N85 endorsed Riverine Combatant Craft Replacement Acquisition Strategy.

E. Performance Metrics

Successfully demonstrate system and prototype functionality to support approved Initial Capabilities Document (ICD).

UNCLASSIFIED

| | | | | | | | |
|---|--|--|----------------------------|--|--|--|--|
| Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy | | | DATE: February 2011 | | | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | R-1 ITEM NOMENCLATURE PE 0604230N: <i>Warfare Support System</i> | | | PROJECT 9C86: <i>Combatant Craft Replacement</i> | | |

| | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|--|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Proj 9C86 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Combatant Craft Feasibility Study(ies) Award | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Combatant Craft Mockup Award | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Combatant Craft Study Report(s) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Combatant Craft Mockup Delivery | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Combatant Craft Prototype Awards | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Combatant Craft Prototype Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Craft Test and Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Selection of Craft for Production | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604230N: <i>Warfare Support System</i> | PROJECT 9C86: <i>Combatant Craft Replacement</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| <i>Proj 9C86</i> | | | | |
| Combatant Craft Feasibility Study(ies) Award | 1 | 2012 | 1 | 2012 |
| Combatant Craft Mockup Award | 4 | 2012 | 4 | 2012 |
| Combatant Craft Study Report(s) | 4 | 2012 | 4 | 2012 |
| Combatant Craft Mockup Delivery | 2 | 2013 | 2 | 2013 |
| Combatant Craft Prototype Awards | 3 | 2013 | 3 | 2013 |
| Combatant Craft Prototype Deliveries | 3 | 2014 | 3 | 2014 |
| Craft Test and Evaluation | 4 | 2014 | 1 | 2015 |
| Selection of Craft for Production | 2 | 2015 | 2 | 2015 |

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | | | | R-1 ITEM NOMENCLATURE | | | | | | | |
|---|----------------|----------------|---------------------|---|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | PE 0604231N: <i>Tactical Command System</i> | | | | | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| Total Program Element | 91.448 | 89.955 | 81.257 | - | 81.257 | 49.709 | 44.766 | 41.347 | 45.048 | Continuing | Continuing |
| 0486.: <i>Tactical Support Center</i> | 11.596 | 15.972 | 12.993 | - | 12.993 | 6.550 | 6.243 | 6.262 | 6.305 | Continuing | Continuing |
| 0709: <i>GCCS-M Maritime Applications</i> | 19.926 | 28.216 | 17.580 | - | 17.580 | - | - | - | - | 0.000 | 65.722 |
| 2009: <i>OSIS Evolutionary Development (OED)</i> | 1.295 | - | - | - | - | - | - | - | - | 0.000 | 1.295 |
| 2213: <i>Mission Planning</i> | 18.366 | 16.345 | 20.468 | - | 20.468 | 7.234 | 7.400 | 7.383 | 7.393 | Continuing | Continuing |
| 2307: <i>Shipboard LAN/WAN</i> | 2.387 | 0.464 | 0.308 | - | 0.308 | 0.315 | - | - | - | 0.000 | 3.474 |
| 2351: <i>MDA</i> | 19.485 | 19.630 | - | - | - | - | - | - | - | 0.000 | 39.115 |
| 3032: <i>NTCSS (Naval Tactical Command Spt Sys)</i> | 5.971 | 3.661 | 18.524 | - | 18.524 | 12.639 | 7.974 | 5.050 | 0.928 | Continuing | Continuing |
| 3320: <i>TRIDENT Warrior</i> | - | - | 3.712 | - | 3.712 | 3.582 | 3.037 | 3.075 | 2.285 | Continuing | Continuing |
| 3323: <i>Maritime Tactical Command & Control (MTC2)</i> | - | - | 0.003 | - | 0.003 | 9.716 | 10.800 | 12.401 | 21.832 | Continuing | Continuing |
| 3324: <i>Navy Air Operations Command and Control (NAOC2)</i> | - | - | 2.283 | - | 2.283 | 4.987 | 4.297 | 2.184 | 1.136 | Continuing | Continuing |
| 9123: <i>FORCEnet</i> | 6.049 | 5.667 | 5.386 | - | 5.386 | 4.686 | 5.015 | 4.992 | 5.169 | Continuing | Continuing |
| 9999: <i>Congressional Adds</i> | 6.373 | - | - | - | - | - | - | - | - | 0.000 | 6.373 |

Note

Project 0709 Global Command & Control System Maritime (GCCS-M) Applications: Beginning in fiscal year 2013, the Navy Command Control Air Planning Capability effort will be realigned from GCCS-M Applications (Project Unit 0709) to the Navy Air Operations Command and Control (NAOC2) program (Project Unit 3324).

Project 2351 Maritime Domain Awareness (MDA): MDA RDTEN funding was realigned to DCGS-N PE 0305208N in FY12 and out.

Project 3320 Trident Warrior (TW): Funding transferred from Project 9123 FORCEnet into Project 3320 beginning in FY12.

UNCLASSIFIED

UNCLASSIFIED

| | |
|---|----------------------------|
| Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy | DATE: February 2011 |
|---|----------------------------|

| | |
|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> |
|---|---|

Project 3323 Maritime Tactical Command & Control (MTC2): Beginning in fiscal year 2013, the development of maritime tactical command and control capabilities will be realigned from Global Command and Control System Maritime (GCCS-M) Maritime Applications (Project Unit 0709) to the Maritime Tactical Command and Control (MTC2) program (Project Unit 3323).

A. Mission Description and Budget Item Justification

The Tactical Command System upgrades the Navy's Command, Control, Computer and Intelligence (C3I) systems and processes C3I information for all warfare mission areas including planning, direction and reconstruction of missions for peacetime, wartime and times of crises.

Global Command and Control System - Maritime (GCCS-M): GCCS-M is a part of the GCCS Family of Systems (FoS). As such and responding to Congressional direction (Section 247 of Fiscal Year 2010 National Defense Authorization Act (NDAA)), it will form the basis for the evolution of new command and control capabilities and Maritime Tactical Command and Control (C2) capabilities within the Department of Defense (DoD). While sustaining and synchronizing currently fielded operations, the Navy will modernize and enhance current capabilities to support both the Service and Joint war fighter as a part of a synchronized, orchestrated DoD-wide effort that will transition the current GCCS FoS into a more agile, net-centric, services-oriented environment. These efforts will take advantage of both streamlined processes within the requirements community, such as the "IT Box" and ongoing changes in the information technology acquisition process, as described in chapter 6 of the March 2009 Report of the Defense Science Board (DSB) Task Force on DoD Policies and Procedures for the Acquisition of Information Technology (Section 804 of Fiscal Year 2010 NDAA).

Mission Planning: The Joint Mission Planning System (JMPS) is the CNO's designated automated mission planning system for the Navy. JMPS enables weapon system employment by providing the information, automated tools, and decision aids needed to rapidly plan aircraft, weapon, or sensor missions, load mission data into aircraft and weapons, and conduct post-mission analysis. JMPS is a mission critical system which is a co-development effort between the United States Navy (USN) and United States Air Force (USAF). Common requirements are identified and capabilities are developed and prioritized in an evolutionary approach. An individual JMPS mission-planning environment (MPE) is a combination of the JMPS framework, common capabilities, and the necessary system hardware required to satisfy mission planning objectives. Most Tactical Naval Aviation platforms are dependent solely on JMPS to plan precision guided munitions, sensor systems, tactical data links, secure voice communications, and basic Safety of Flight functions. The following type/model/series naval aircraft are supported by JMPS: F/A-18 A-F, E-2C, EA-6B, S-3, MV-22, EA-18G, AV-8B and VH-3/VH-60. Future JMPS platforms include: CH-46E, CH-53, MH-53E, H-60B/F/H, UH-1N, P-3, KC-130T/J, C-2, AH-1W/Z, H-60 R/S, follow-on version of VH3/VH-60, P-8, E-2D, UH-1Y, H-53K, and C-130. As directed via the CNO's Navy Enterprise Architecture and Data Strategy (NEADS) policy, the next JMPS architecture version (Framework V 1.4) will support net-centric goals by providing route "publish and subscribe" capabilities.

Tactical Support Center: The Tactical Mobile program provides evolutionary systems and equipment upgrades to support the Maritime Component Commanders (Expeditionary Ashore) and Maritime Patrol and Reconnaissance Force Commanders with the capability to plan, direct and control the tactical operations of Joint and Naval Expeditionary Forces and other assigned units within their respective area of responsibility. These operations include littoral, open ocean, and over land surveillance, anti-surface warfare, over-the-horizon targeting, counter-drug operations, power projection, antisubmarine warfare, mining, search and rescue, and special operations. The missions are supported by the Tactical Operations Centers (formerly Tactical Support Centers), the Mobile Tactical Operations Centers (formerly Mobile Operations Control Centers), and the Joint Mobile Ashore Support Terminal. TacMobile C2 systems are based on the Global Command and Control System - Maritime architecture which is Defense Information Infrastructure Common Operating Environment compliant.

UNCLASSIFIED

| | |
|---|----------------------------|
| Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy | DATE: February 2011 |
|---|----------------------------|

| | |
|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> |
|---|---|

Trusted Information Systems: Radiant Mercury is a secure information platform that provides an automated means to sanitize, downgrade, guard, and transliterate formatted data at various classifications, compartments and reliabilities. With the aid of a reliable human reviewer, RM can process nonstandard messages, such as messages with National Imagery Transmission Format products and other non/semi-formatted file types. It enables combat commanders and operational commanders, afloat and ashore, to disseminate and receive critical operational and intelligence information with coalition and allied forces.

Shipboard Local Area Network (LAN)/Wide Area Network (WAN) : Integrated Shipboard Network System (ISNS): ISNS provides Navy ships with reliable, high-speed SECRET and UNCLASSIFIED LANs, providing the network infrastructure (switches and drops to the PC), Basic Network Information Distribution Services and access to the Defense Information Systems Network WAN, Secure and Nonsecure Internet Protocol Router Network (SIPRNET and NIPRNET) which are used by other hosted applications or systems such as Naval Tactical Command Support System, Global Command and Control System - Maritime, Defense Messaging System, Navy Standard Integrated Personnel System, Naval Mission Planning System, Theater Battle Management Core Systems, and Tactical Tomahawk Weapons Control System. It enables real-time information exchange within the ship and between afloat units, Component Commanders, and Fleet Commanders, and is a key factor in the implementation of the Navy's portion of Joint Vision 2020. Funding supports the design, development, and testing of the ISNS LAN for surface ships. ISNS includes integrated core services to provide a Service Oriented Architecture also known as Afloat Core Services (ACS) which is the mechanism to deliver the FORCEnet interface to the warfighter. ACS provides a composable warfighting environment enabling dynamic configuration of capabilities tailored to meet specific warfighting missions. As the warfighting mission changes, the capabilities or services can be re-configured on the fly to meet the new warfighting requirement. This dynamic reconfiguration of services also known as "plug and fight" meets the composable services vision of FORCEnet. ACS also provides the common core enterprise services and framework to allow organizations ubiquitous access to reliable, decision-quality information through a net-based services infrastructure and applications to bridge real-time and near-real-time Communities of Interest. The ACS will empower the end user to pull information from any available source, with minimal latency, to support the mission. Its capabilities will allow Department of the Navy as well as Global Information Grid users to task, post, process, use, store, manage, and protect information resources on demand for warfighters, policy makers, and support personnel. ACS will utilize a spiral process for delivering capability to the warfighter. The ISNS Inc 1, Sensitive Compartmented Information (SCI) Networks and Combined Enterprise Regional Information Exchange System (CENTRIXS) programs began migration to ISNS Inc 2/Consolidated Afloat Networks and Enterprise Services (CANES) in FY09. ISNS Inc 2/CANES will serve to transition numerous Fleet networks to a single, adaptive, available, secure computing network infrastructure while delivering enhanced technologies in: Integrated Voice, Video and Data; Common Computing Environment: ACS; and Multi-Level Security /Cross Domain Solutions. The program began development transition to CANES in FY2010.

Combined Enterprise Regional Information Exchange System (CENTRIXS): The CENTRIXS program provides US Navy ships with secure, reliable, high-speed Local Area Network (LAN) with access to the Coalition WAN to include CENTRIXS Four-Eyes, Global Counter Terrorism Task Force, North Atlantic Treaty Organization Information Data Transfer System, Multinational Coalition Force - Iraq, bilateral networks such as CENTRIXS-J (Japan) and CENTRIXS-K (Korea), and Communities Of Interest virtual networks such as Coalition Naval Forces - U.S. Central Command (CENTCOM) (CNFC), and Cooperative Maritime Forces - Pacific. The CENTRIXS system provides real-time tactical and operational information sharing at the SECRET and SECRET REL (Releasable) level between naval afloat units, Component Commanders, Fleet Commanders, Numbered Fleet Commanders and Coalition Forces/Allies. When the CENTRIXS network is combined with other subsystems (Radio/Satellite Communications), it delivers an end-to-end network centric warfighting capability. The CENTRIXS program is comprised of Block 0, I, and II systems fielded across the Fleet, and Increment 1 which provides a network infrastructure that allows simultaneous access to multiple Coalition WAN and incorporates the Common PC Operating System Environment which provides a server and client operating system environment for other applications and collaborative tools such as

UNCLASSIFIED

| | |
|---|----------------------------|
| Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy | DATE: February 2011 |
|---|----------------------------|

| | |
|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> |
|---|---|

Same time Chat, Domino and Command and Control PC as means to share a Common Operational Picture and exchange information using Collaboration At Sea. The CENTRIXS program uses both Commercial off the Shelf hardware and software and Open Standards to maximize commercial technology and support. In-service engineering and technical support ensures existing systems are upgraded and modified to keep pace with current technology and industry.

Combined Enterprise Regional Information Exchange System (CENTRIXS) funding supports the design, development and testing of the CENTRIXS LAN for surface and subsurface platforms and the CENTRIXS Network Operations Center (NOC). The goal of the CENTRIXS program is to provide a cost-efficient, operationally effective network that dramatically reduces current infrastructure requirements while maximizing operational flexibility and war fighter utility in a coalition environment. Multi-Level Thin Client (MLTC) architecture support shipboard Space, Weight and Power (SWAP) reductions and include initiatives for server virtualization (ability to run multiple servers on a single server), drop scalability leveraging existing Secure Internet Protocol Router Network (SIPRNET) drops, remote authentication and remote system management. Additionally funding will provide design, development and testing for a Unit Level MLTC system (provides a compressed shipboard rack/client footprint) and initiatives to include Language Translation, Communities of Interest (COI) and Network Enclave Agility (ability to dynamically shift between all coalition networks and COIs) and Multi-Level Chat (a Cross Domain Solution (CDS) chat capability). The CENTRIXS program began migration to Integrated Shipboard Network Systems Increment 2 (ISNS Inc 2)/Consolidated Afloat Networks and Enterprise Services (CANES) in FY09. ISNS Inc 2/CANES will serve to transition numerous Fleet networks to a single, adaptive, available, secure computing network infrastructure while delivering enhanced technologies in: Integrated Voice, Video and Data; Common Computing Environment (CCE); Service Oriented Architecture (SOA); and Multi-Level Security (MLS)/CDS. Full transition to CANES began in FY 2010.

Submarine Local Area Network (SubLAN): The SubLAN program provides Navy submarines with reliable, high-speed Mission Critical SECRET and Mission Essential UNCLASSIFIED Local Area Networks (LANs). When the SubLAN network is combined with other subsystems, it will deliver an end to end network-centric warfare capability. The SubLAN program provides network infrastructure including an Unclassified Wireless Local Area Network (UWLAN), servers, and the Common Personal Computer Operating System Environment (COMPOSE) which provides the operating system, office automation, security, and other basic network services used by all hosted applications. Funding supports the design, development, and testing of SubLAN for addition of capabilities in support of migration to the CANES program effort.

Naval Tactical Command Support System (NTCSS) Enterprise Database and Maritime Logistics Data Network (MLDN): The NTCSS is a multi-function program designed to provide standard tactical support information systems to various afloat and associated shore-based fleet activities. The mission is to provide the Navy and Marine Corps with an integrated, scalable system that supports the management of logistical information, personnel, material and funds required to maintain and operate ships, submarines, and aircraft.

Maritime Tactical Command and Control (MTC2) provides Navy with the ability to deliver maritime domain-unique tactical Command and Control (C2) capabilities from Maritime Operations Centers down to the lowest tactical unit of operations. MTC2 supports alignment and provides interoperability of Navy Command and Control with the DoD Joint Command and Control way-forward. It will fully align with Joint C2 data and service exposure and consumption goals, architectures, and Net-Centric Enterprise Service efforts. These resources support the evolutionary acquisition, materiel solution analysis, technology development, engineering and software development of these capabilities.

Navy Air Operations Command and Control (NAOC2) integrates and tests Air Force produced systems that provide for an integrated and scalable planning system that provides standardized, secure, automated decision support for Air Force, Joint, and Allied commanders worldwide. These programs provide automated air operations

UNCLASSIFIED

| | |
|---|----------------------------|
| Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy | DATE: February 2011 |
|---|----------------------------|

| | |
|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> |
|---|---|

planning, execution management and intelligence capabilities at the Force level to include Fleet Commanders, Numbered Fleet Commanders, Commander Carrier Strike Group, Commander Expeditionary Strike Group, Commander Landing Force, and Joint Task Force Commanders. NAOC2 includes Theater Battle Management Core System (TBMCS), Command and Control Air and Space Operations Suite (C2AOS), plus Command, Control and Information Services (C2IS). C2AOS and C2IS are being developed as Service Oriented Architecture (SOA) services to allow for scalability and integration with Common Computing Environments (CCE). Continuation of these efforts will significantly enhance the Joint Force Air Component Commander (JFACC) and Combined Air Operations Center (CAOC) personnel to plan daily air operations including strike, airlift, offensive and defensive air, and tanker missions in support of combat operations, addressing the requirement of war fighter of distributed planning and execution processes and significantly improving Joint interoperability. TBMCS continues a hardware transition to CCEs such as Consolidated Afloat Networks and Enterprise Services (CANES). Currently, TBMCS is the key system that is used to conduct real world air planning in the Joint and Navy environment. C2AOS and C2IS will replace TBMCS in a SOA environment while bringing more flexibility to the war fighter, planner, and executor. In FY2012, the program will continue efforts previously funded by Global Command and Control System Maritime (GCCS-M) to migrate Air Force delivered TBMCS software to the Navy unique CANES environment.

FORCEnet: Initiative's mission is to (a) accelerate the transformation to a Distributed, Networked force; (b) achieve interoperability based on Architectures and Standards; and (c) Experiment with, evaluate and employ the enabling technologies. Effort is a non-acquisition program that is the operational instantiation of FORCEnet. The end-state is a distributed network of weapons, sensors, Command and Control (C2), platforms and warriors. Trident Warrior (TW): From FY12 forward, funding transferred from Project 9123 FORCEnet into new Project 3320.

Maritime Domain Awareness (MDA): MDA is the effective understanding of anything associated with the global maritime domain that could impact the security, safety, economy or environment. MDA objectives include the persistent monitoring of and ability to access and maintain data on vessels, cargo, people, and infrastructures; and the ability to collect, fuse, analyze, and disseminate information to decision makers to facilitate effective understanding. This initiative will identify, develop and transition data fusion and mining, replication, sharing and assessment tools to achieve MDA across the non-classified, unclassified and classified enclaves. Additionally, MDA will ensure capability integration with related activities and sites (both technologies and facilities). This warfighting enhancement is designed to achieve an all-source MDA capability, leveraging existing MDA initiatives in the developmental phase and ensuring the best products transition to strategic, operational and tactical users within the DCGS-N Increment 2 Program of Record. This includes the enhanced and future fusion and analysis capabilities defined in the Maritime Fusion and Analysis Services Initial Capabilities Document (MFAS ICD), DCGS Enterprise ICD, and the DCGS-N Increment 2 Gap Analysis. The products support all-source data fusion, development and replication of MDA and Intelligence Surveillance and Reconnaissance (ISR) related data gathered in various operations such as Expanded-Maritime Intercept Operations, sharing information with allies, and developing subject matter expertise and assessment tools to achieve MDA and enhance operational decision making.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> |
|---|---|

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 92.379 | 89.955 | 89.967 | - | 89.967 |
| Current President's Budget | 91.448 | 89.955 | 81.257 | - | 81.257 |
| Total Adjustments | -0.931 | - | -8.710 | - | -8.710 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | 0.975 | - | | | |
| • SBIR/STTR Transfer | -1.130 | - | | | |
| • Program Adjustments | - | - | -7.797 | - | -7.797 |
| • Section 219 Reprogramming | -0.758 | - | - | - | - |
| • Rate/Misc Adjustments | - | - | -0.913 | - | -0.913 |
| • Congressional General Reductions Adjustments | -0.018 | - | - | - | - |

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 9999: Congressional Adds

 Congressional Add: *Shipboard Wireless Network*

 Congressional Add: *ISR Enhancements*

Congressional Add Subtotals for Project: 9999

Congressional Add Totals for all Projects

| | FY 2010 | FY 2011 |
|--|----------------|----------------|
| | 2.390 | - |
| | 3.983 | - |
| | 6.373 | - |
| | 6.373 | - |

Change Summary Explanation

Technical: Not applicable.

Schedule:

TACTICAL SUPPORT CENTER (Project 0486):

MSC decision is scheduled for 4th Qtr FY11. Operational Test is scheduled for 2nd Qtr FY12. FRP is scheduled for 4th Qtr FY12.

Global Command and Control System - Maritime (GCCS-M) (Project 0709):

UNCLASSIFIED

| | |
|---|----------------------------|
| Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy | DATE: February 2011 |
|---|----------------------------|

| | |
|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> |
|---|---|

In August 2009, the Milestone Decision Authority approved an alternate material solution of GCCS-M Increment 2 to support the requirements of Group Level ships, Unit Level ships, and submarines. This solution is based on the Office of Naval Research (ONR)-funded project eXtensible Common Operational Picture (XCOP). GCCS-M Increment 2 conducted a successful GATE 6 review for its Milestone C on 29 April 2010.

Radiant Mercury (RM) (Project 2009):
Schedule slip of RM Version 5.0 from 3QFY10 to 4QFY10 due to delay in NSA certification.

Mission Planning (Project 2213):
From/To:
System Development:
JMPS V1.4 Software Development - Details added to the schedule Effort runs from 2Q FY11- 2Q FY12/1Q FY12-2Q FY12
Due to Congressional mark against USAF Increment IV (PE 0208006F) which led to Critical Change Review in accordance with Weapon Systems Acquisition Reform Act (WSARA).

JMPS V1.4 OTRR 4Q FY11/3Q FY12
Due to Congressional mark against USAF Increment IV (PE 0208006F) which led to Critical Change Review in accordance with Weapon Systems Acquisition Reform Act (WSARA).
Test and Evaluation

JMPS V1.4 OT 1Q-2Q FY12/4Q FY12-1Q FY13
Due to Congressional mark against USAF Increment IV (PE 0208006F) which led to Critical Change Review in accordance with Weapon Systems Acquisition Reform Act (WSARA).

JMPS 1.4 MPE Integration/Valid. 1Q FY11-4Q FY15/1Q FY12-4Q FY16
Due to Congressional mark against USAF Increment IV (PE 0208006F) which led to Critical Change Review in accordance with Weapon Systems Acquisition Reform Act (WSARA).

JMPS V1.4 FQT 1Q FY 11/1Q FY 12
Due to Congressional mark against USAF Increment IV (PE 0208006F) which led to Critical Change Review in accordance with Weapon Systems Acquisition Reform Act (WSARA).

JMPS V1.4 DT 1Q FY10-4Q FY11/1QFY12 -2Q FY 12
Due to Congressional mark against USAF Increment IV (PE 0208006F) which led to Critical Change Review in accordance with Weapon Systems Acquisition Reform Act (WSARA).

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy DATE: February 2011

| APPROPRIATION/BUDGET ACTIVITY | R-1 ITEM NOMENCLATURE |
|---|---|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | PE 0604231N: <i>Tactical Command System</i> |

JMPS V1.3.5 DT - Details added to the schedule. Effort runs from 2Q FY11-3Q FY11
In order to accommodate the mission planning environment (MPE) and platform operational flight program (OFP) development schedules of EA-6B, V-22 and F/A 18, which also require the use and testing of Windows OS 7, the program needs to acquire FW Version 1.3.5 because this is the only version that will offer the correct operating system without significantly delaying the MPE and platform OFP development and test schedules.

JMPS V1.3.5 MPE Integration/Valid - Details added to the schedule. Effort runs from 4Q FY11-4Q FY13
In order to accommodate the mission planning environment (MPE) and platform operational flight program (OFP) development schedules of EA-6B, V-22 and F/A 18, which also require the use and testing of Windows OS 7, the program needs to acquire FW Version 1.3.5 because this is the only version that will offer the correct operating system without significantly delaying the MPE and platform OFP development and test schedules.
Production Milestones

JMPS V1.4 IOC 3QFY12/3Q FY13
Due to Congressional mark against USAF Increment IV (PE 0208006F) which led to Critical Change Review in accordance with Weapon Systems Acquisition Reform Act (WSARA).

CENTRIXS (Project 2307):
COMPOSE 4.0 Software deliveries changed from 2Q FY10 to 3Q FY11 to reflect the current software fielding schedule. Full transition to CANES occurred in FY10.

ISNS (Project 2307):
Development transition to CANES began in FY 2010.

SubLAN (Project 2307):
Multi Level Security requirements have been removed from SubLAN POR.

Maritime Domain Awareness (MDA) (Project 2351):
MDA program schedule has been modified to reflect the transition of MDA capabilities as defined in the Maritime Fusion and Analysis Services (MFAS) Initial Capabilities Document (ICD) into the Distributed Common Ground System - Navy (DCGS-N) Program of Record (PoR) under DCGS-N Increment 2. Previously identified funding in FY 2012 and beyond has been realigned to DCGS-N RDTEN PE 0305208N.

Naval Tactical Command Support System (NTCSS) (Project 3032):
Increasing requirements in information security and functional capability have required shifts in the approach for systems design and development. The updated schedule reflects a more integrated plan to accomplish refined requirements, fact-of-life changes, and modernization of the NTCSS system. As development approaches and build requirements are solidified, changes to the schedule will reflect more accurate time frames for multiple NTCSS system builds.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 0486.: <i>Tactical Support Center</i> |
|---|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---------------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 0486.: <i>Tactical Support Center</i> | 11.596 | 15.972 | 12.993 | - | 12.993 | 6.550 | 6.243 | 6.262 | 6.305 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

The Tactical/Mobile program provides evolutionary systems and equipment upgrades to support Maritime Component Commanders (Expeditionary Ashore) and Maritime Patrol and Reconnaissance Force Commanders with the capability to plan, direct, and control the tactical operations of Joint and Naval Expeditionary Forces and other assigned units within their respective area of responsibility. These operations include littoral, open ocean, and over land all-sensor surveillance, anti-surface warfare, over-the-horizon targeting, counter-drug operations, power projection, antisubmarine warfare, mining, search and rescue, and special operations.

The missions are supported by the Tactical Operations Centers (TOCs), the Mobile Tactical Operations Centers (MTOCs), and the Joint Mobile Ashore Support Terminals (JMASTs). Services provided include analysis and correlation of diverse sensor information; data management support; command decision aids; rapid data communication; mission planning, evaluation and dissemination of surveillance data and threat alerts to operational users ashore and afloat. Tactical/Mobile Command and Control systems are based on the Global Command and Control System - Maritime (GCCS-M) architecture, which is Defense Information Infrastructure Common Operating Environment compliant.

TOCs and MTOCs provide Command, Control, Communications, Computers and Intelligence (C4I) capability, air-ground, satellite and point-to-point communications systems; sensor analysis capabilities; avionics and weapons system interfaces and facilities equipment. MTOCs are scalable and mobile versions of the TOC for operations from airfields that do not have TOC support. This program assures that existing TOCs and MTOCs are modernized to fulfill their operational requirements. TOC/MTOC will continue to provide the ground Command and Control capabilities and C4I interfaces for the MPRF Family of Systems aircraft and systems evolution including P-3C aircraft updates to sensors and weapons systems, such as the Anti-Surface Warfare Maritime Improvement Program (AMIP), and the Command Control Communications Computers for Anti-Submarine Warfare (C4 for ASW) P-3C aircraft upgrades, P-8A Multi mission Aircraft (MMA) Increment 1, as well as development of emergent, ground C4I support capabilities for the P-8A MMA Increment 2 and the Broad Area Maritime Surveillance Unmanned Aerial System (BAMS UAS).

JMAST supports the Fleet Commanders, Naval Component Commanders, and other military commanders from forward deployed bases or operational sites ashore that are not equipped with C4I facilities. It provides the Navy Component, and other military commanders with flexible, mobile, organic response, to command, control and communicate with assigned forces via voice, video, and data media forms, during all aspects of military operations, including joint, combined, and coalition operations.

The TacMobile program was designated as an Acquisition Category (ACAT) III weapons system program July 2004 and is no longer directly associated with the GCCS-M program. The TacMobile program follows an Evolutionary Acquisition approach, which provides a mechanism for adding a series of future capabilities that maintain and enhance the operational relevance of the systems provided, as well as augments improvements in airborne networking. Transformation of the TOC/MTOC Force to a more mobile, scalable, and Network-centric Services Oriented Architecture (SOA) configuration, convergence of TOC, MTOC to a single configuration, and as an integral component of the Maritime Patrol and Reconnaissance Force (MPRF) Family of Systems, operational Command, Control, Communications, Computers and

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 0486.: <i>Tactical Support Center</i> |
|---|---|---|

Intelligence (C4I) integration support for new and upgraded Maritime Patrol and Reconnaissance Aircraft (MPRA) such as MMA, Aircraft Improvement Program, BAM UAS as well as other Command and Control and fighter aircraft are primary objectives.

FY12: Funding supports TacMobile systems development to achieve interoperability with P-8A Multi mission Aircraft (MMA) Increment 2 and the Broad Area Maritime Surveillance Unmanned Aerial System (BAMS UAS), increased modularity, support for additional security enclaves, and enhancing flexibility and mobility, to offset the size/weight/cube of additional required aircraft interfaces developed to support P-8A MMA operations. Network-centric Services Oriented Architecture (SOA) and airborne C4I integration efforts continue as improvements to airborne and Intelligence/Surveillance/Reconnaissance networking technologies are matured. Will achieve interoperability with emerging Maritime Patrol and Reconnaissance Force (MPRF) Aircraft and Sensors while reducing TacMobile footprint enhancing Mobility capability.

The DARK FUSION JCTD will provide intelligence analysts, joint warfighters, Combatant Commanders (COCOM) and other interagency senior decision makers significant maritime domain awareness (MDA) improvement, aimed at increased awareness of certain vessels and "dark" targets (e.g., smaller vessels, "fast movers/go fasts", semi-submersibles, non-emitting vessels, etc.) not being detected by current means, using newly developed and under-utilized data sources. These vessels may not be emitting their normal complement of maritime signals (e.g., not participating in the electro-magnetic spectrum).

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|--------------|-------------|---------------|
| Title: Net Ready | 2.182 | 0.900 | 0.789 | - | 0.789 |
| Articles: | 0 | 0 | 0 | | 0 |
| FY 2010 Accomplishments: | | | | | |
| Communications: Continued Integration of Wide Band Line of Sight (LOS) and Beyond Line of Sight (BLOS) Tactical Edge Networking Waveforms to meet migration of Defense Information Systems Agency (DISA) interoperability standards, incorporating Cipher text (Black Core) Routing to support Internet Protocol (IP) connected end-to-end Net Centric USW communications between TacMobile units, Maritime Patrol and Reconnaissance Aircraft (MPRA) and supported commanders and other external agencies (Tech Refresh). Researched and coordinated with appropriate Communities of Interest to implement data strategies (open-source extensible markup language (XML) metadata or schemas) to enable data visibility, accessibility, understanding and trustworthiness (Increment 2.1). | | | | | |
| FY 2011 Plans: | | | | | |
| Communications: Investigate technology readiness and overall maturity level of Joint Tactical Radio System (JTRS) and other software definable radio options for applicability to TacMobile communications architecture (Increment 3). Conduct Developmental Test and Evaluation of Cipher Text Routing Wide Band BLOS IP solutions (Tech Refresh). Begin integration of Converged IP interoperability standards to the Wide Band BLOS | | | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 0486.: <i>Tactical Support Center</i> |
|---|---|---|

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|--------------|-------------|---------------|
| networking systems (Increment 3). Investigate requirements for Range of Warfare Command and Control reach-back IP connectivity options (Increment TBD). | | | | | |
| <i>FY 2012 Base Plans:</i> Communications: Conduct Operational Test and Evaluation of Cipher Text Routing, Automated Digital Network System (ADNS) Architecture and Routing, Wide Band BLOS IP capabilities. Begin analysis of alternatives of identified Joint Tactical Radio System (JTRS) and other software definable radio options for incorporation into TacMobile communications architecture. Continue investigation of requirements for Range of Warfare Command and Control (ROWC2) reach-back Internet Protocol (IP) connectivity options for communications continuity | | | | | |
| <i>Title:</i> Tactical Mobile Acoustic Support System (TACMASS) | 0.951 | 0.745 | 0.736 | - | 0.736 |
| <i>Articles:</i> | 0 | 0 | 0 | | 0 |
| <i>FY 2010 Accomplishments:</i> Analysis: Continued Integration of Advanced Multi-static Acoustic Analysis Capabilities into TACMASS. Continued integration of Non-Acoustic Electro Optical/Infrared (EO/IR) Analysis capabilities. Continued development/integration of auto detection, tracking and screening capabilities to reduce acoustic analyst workload and increase Anti Submarine Warfare (ASW) probability of detection. Developed concurrent processing enhancements to increase processing capacity and reduce processing time to support increased volume of recorded MPRA ASW acoustic data. Integrated advanced Joint and Common display formats to enhance system Operator Machine Interface. (Increment 2.1) | | | | | |
| <i>FY 2011 Plans:</i> Analysis: Conduct Developmental Test and Evaluation of capabilities to support data standards and media interfaces for P-8A Multi mission Aircraft (MMA) Increment 1 Intelligence/Surveillance/reconnaissance (ISR) and Anti Submarine Warfare (ASW) sensor systems(Increment 2.1). Assess and evaluate advanced multi static, digital and concurrent processing capabilities, automation capabilities, and advanced display formats(Increment 3). Complete development/integration of auto detection, tracking and screening capabilities to reduce acoustic analyst workload and increase ASW probability of detection(Increment 2.1). Begin development of enhanced broadband processing capabilities. Integrate Acoustic Intercept System updated screeners. Integrate analysis capabilities to support evolving data standards and media interfaces for Maritime Patrol Aircraft ISR and ASW sensor systems. Begin development and integration of Improved and Advanced Multi-Static Acoustic Analysis | | | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 0486.: <i>Tactical Support Center</i> |
|---|---|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|------------|------------|--------------|-------------|---------------|
| capabilities required to support fielding of P-8A MMA Increment 2. Begin development and integration of High Altitude ASW capabilities. (Increment 3) FY 2012 Base Plans: Conduct Operational Test and Evaluation of capabilities to support data standards and media interfaces for P-8A MMA Increment 1 ISR and ASW sensor systems (Increment 2.1). Continue development of enhanced broadband processing capabilities. Continue Integration of Acoustic Intercept System updated screeners. Continue integration of analysis capabilities to support evolving data standards and media interfaces for Maritime Patrol Aircraft ISR and ASW sensor systems. Continue development and integration of Improved and Advanced Multi-Static Acoustic Analysis capabilities required to support fielding of P-8A MMA Increment 2. Continue development and integration of High Altitude ASW capabilities. (Increment 3) | | | | | |
| Title: NORAD-NORTHCOM Surveillance Articles: | - | 7.029 0 | - | - | - |
| FY 2011 Plans: NORAD-NORTHCOM Surveillance Tactical Command Systems | | | | | |
| Title: Aircraft Interfaces Articles: | 0.864 0 | 0.643 0 | 0.583 0 | - | 0.583 0 |
| FY 2010 Accomplishments: Media: Began integration of new ground support capabilities to support capabilities being developed for Maritime Patrol and Reconnaissance Aircraft (MPRA) incorporating P-8A MMA Increment 1 upgrades (Increment 2.1). Continued to evaluate and assess those interfaces required to support Broad Area Maritime Surveillance Unmanned Aerial System (BAMS UAS) and other Maritime Patrol and Reconnaissance Aircraft (MPRA) aircraft to ensure platform Warfighting wholeness (Increment 3). Began identification, evaluation, and assessment of interfaces required for network-centric operations with various air platforms involved in airborne networks. Continued development of discovery-search and storage services capable of providing persistent and reliable searchable access and storage as a proxy for the P-8A Multi-mission Maritime Aircraft (MMA) Increment 1 produced data that satisfies the data sharing and data visibility tenets of the DoD Net-Centric Data Strategy. (Increment 2.1). FY 2011 Plans: Media: Conduct Developmental Test and Evaluation of new ground support capabilities to support capabilities being developed for MPRA incorporating P-8A MMA Increment 1 upgrades (Increment 2.1). Continue to | | | | | |

UNCLASSIFIED

| | | | | | |
|---|-------|---|----------------------------|---|-------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | | PROJECT 0486.: <i>Tactical Support Center</i> | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | | | | |
| | | | | | |
| evaluate and begin design for those interfaces required to support Broad Area Maritime Surveillance Unmanned Aerial System (BAMS UAS) to ensure platform Warfighting wholeness. Continue to evaluate and assess network-centric interfaces. Begin review and analysis of integration requirements for P-8A MMA Increment 2. (Increment 3) | | | | | |
| FY 2012 Base Plans: Media: Conduct Operational Test and Evaluation of new ground support capabilities to support capabilities being developed for MPRA incorporating P-8A MMA Increment 1 upgrades (Increment 2.1). Continue to evaluate and design for those interfaces required to support Broad Area Maritime Surveillance Unmanned Aerial System (BAMS UAS) to ensure platform Warfighting wholeness. Continue to evaluate and assess network-centric interfaces. Continue analysis of integration requirements for P-8A MMA Increment 2 . Begin development of those interfaces required to support P-8A MMA Increment 2 upgrades. (Increment 3) | | | | | |
| Title: Tactical Data Links | | | | | |
| Articles: | | | | | |
| | | | | | |
| FY 2010 Accomplishments: Tactical Data Links: Continued Integration and testing of Link-16 portable capability(Tech Refresh). Began investigation of future Tactical Data Link (TADIL) requirements that transition from legacy systems to support emerging and evolving Maritime Patrol and Reconnaissance Aircraft (MPRA) interface requirements while maintaining support for NATO Standardization Agreement (STANAG) defined minimum capabilities(Increment TBD). | | | | | |
| FY 2011 Plans: Continue to explore emergent TADIL standards and MPRA interface requirements, and develop alternatives for TacMobile TADIL transition roadmap(Increment TBD). Conduct integrated developmental testing of TADILs in conjunction with P-8A MMA Increment 1 upgrades (Increment 2.1). Review and assess potential Link-11 sundown replacement options(Increment TBD). | | | | | |
| FY 2012 Base Plans: Conduct Operational Test and Evaluation of TADIL capabilities to support data standards and media interfaces for P-8A MMA Increment 1 and legacy P-3C Orion Intelligence/Surveillance/reconnaissance and Anti Submarine Warfare tactical data exchange(Increment 2.1). Evaluate, assess, prioritize and down select alternatives options for TacMobile TADIL transition roadmap(Increment TBD). | | | | | |
| Title: Enterprise Solutions | | | | | |
| | 0.210 | 0.169 | 0.158 | - | 0.158 |
| | 0 | 0 | 0 | | 0 |
| | 1.301 | 1.040 | 0.380 | - | 0.380 |

UNCLASSIFIED

| | |
|--|----------------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | DATE: February 2011 |
|--|----------------------------|

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 0486.: <i>Tactical Support Center</i> |
|---|---|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|--------------|-------------|---------------|
|---|---------|---------|--------------|-------------|---------------|

| | | | | | |
|--|---|---|---|--|---|
| <p align="right">Articles:</p> <p><i>FY 2010 Accomplishments:</i> Began investigation into modern navy networking infrastructure appropriate for a tactical and mobile environment that comply with net ready, Defense Information Systems Agency (DISA) and Navy Net-Centric Operating standards that support evolutionary transition to a Services Oriented Architecture with Cross Domain accessibility. Began design and development of network infrastructure to meet increased Intelligence Surveillance Reconnaissance (ISR) data volume, provide redundant back-up and disaster recovery Quality of Service (QOS). (Increment 2.1) Continued integration of architectural updates to maintain evolving information assurance standards (Tech Refresh).</p> <p><i>FY 2011 Plans:</i> Begin design of tactical mobile networking infrastructure to comply with net ready, DISA and Navy Net-Centric Operating standards that support evolutionary transition to a Services Oriented Architecture with Cross Domain accessibility. Integrate, test and evaluate network infrastructure to meet increased ISR data volume, provide redundant back-up and disaster recovery QOS.(Increment 2.1) Continue investigation into modern navy networking infrastructure appropriate for a tactical and mobile environment that comply with net ready, Defense Information Systems Agency (DISA) and Navy Net-Centric Operating standards that support evolutionary transition to a Services Oriented Architecture with Cross Domain accessibility. Study data at rest storage, data content management and security requirements for P-8A Multi mission Aircraft (MMA) Increment 2 and Broad Area Maritime Surveillance Unmanned Aircraft System mission data (Increment 3). Assess available options for incorporation of appropriate Distributed Common Ground System Navy (DCGS-N) capabilities (Increment TBD). Conduct developmental testing and evaluation of network infrastructure to meet increased ISR data volume, provide redundant back-up and disaster recovery QOS, and architectural updates to maintain evolving information assurance standards (Increment 2.1).</p> <p><i>FY 2012 Base Plans:</i> Continue design and begin development of tactical mobile networking infrastructure to comply with net ready, DISA and Navy Net-Centric Operating standards that support evolutionary transition to a Consolidated Afloat Network Enterprise Services (CANES) compliant Services Oriented Architecture with Cross Domain accessibility (Increment 3). Conduct Operational Test and Evaluation of network infrastructure to meet increased ISR data volume, provide redundant back-up and disaster recovery QOS (Increment 2.1). Begin development of data</p> | 0 | 0 | 0 | | 0 |
|--|---|---|---|--|---|

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 0486.: <i>Tactical Support Center</i> |
|---|---|---|

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|---------|---------|--------------|-------------|---------------|
| at rest storage, data content management and security requirements for P-8A Increment 2.0 and Broad Area Maritime Surveillance Unmanned Aircraft System mission data(Increment 3). | | | | | |
| Title: Command and Control (C2) | 0.258 | 0.202 | 0.202 | - | 0.202 |
| Articles: | 0 | 0 | 0 | | 0 |
| FY 2010 Accomplishments: Command and Control (C2): Began integration of Global Command and Control System - Maritime (GCCS-M) 4.0.1 follow on GCCS-M 4.0.3 to provide Intelligence Preparation of the Battle Space capabilities, access to Signal Intelligence (SIGINT), Electronic Warfare (EW), and General Military Intelligence database products, into TacMobile systems architecture and provides Common Operational Picture (COP) management, display, and processing capabilities that meet information assurance and interoperability standards (Tech Refresh). | | | | | |
| FY 2011 Plans: Continue integration and conduct Developmental Test and evaluation of Global Command and Control System - Maritime (GCCS-M) 4.0.3 to provide Intelligence Preparation of the Battle Space capabilities, access to Signal Intelligence (SIGINT), Electronic Warfare (EW), and General Military Intelligence database products, and COP management, display, and processing capabilities that meet information assurance standards and maintain interoperability (Tech Refresh). Identify and prepare to begin integration of follow on Command and Control (C2) prototype (Increment 3). Investigate and study Maritime Patrol and Reconnaissance Force (MPRF) Commander Task Force (CTF) C2 requirements(Increment TBD). Investigate and identify C2 track data correlation and fusion tool options (Increment 3). | | | | | |
| FY 2012 Base Plans: Conduct Operational Test and evaluation of GCCS-M 4.0.3 to provide Intelligence Preparation of the Battle Space capabilities, access to SIGINT, EW, and General Military Intelligence database products, and COP management, display, and processing capabilities that meet information assurance standards and maintain interoperability (Tech Refresh). Beging integration of follow on C2 prototype (Increment 3). Develop alternative options for capabilities to support Maritime Patrol and Reconnaissance Force Commander Task Force C2 requirements an C2 track data correlation and fusion tool options (Increment TBD). | | | | | |
| Title: Mission Planning | 1.878 | 1.383 | - | - | - |
| Articles: | 0 | 0 | | | |
| FY 2010 Accomplishments: | | | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 0486.: <i>Tactical Support Center</i> |
|---|---|---|

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|------------|------------|--------------|-------------|---------------|
| <p>Began integration of overarching Maritime Patrol Anti-Submarine Warfare (ASW) mission planning user environment to operate with Joint Collaborative distributed networks that interface to existing Multistatic, Acoustic and Non Acoustic ASW mission planning Tactical Decision Aids (TDA) as well as ASW Decision Support Systems and TDA's under development. Integrated Maritime Patrol weapons planning environment for weapons such as Stand Off Land Attack Missile - Extended Range (SLAM-ER). Integrated mission planning outputs to Maritime Patrol and Reconnaissance Aircraft (MPRA) flight, mission, and sensor systems for development of Aircraft Pre-flight Insertion Data and participation in coordinated ASW mission rehearsal. Increment 2.1)</p> <p>FY 2011 Plans: Conduct developmental test and evaluation of Maritime Patrol ASW mission planning user environment, Maritime Patrol weapons planning environment, and TacMobile systems Aircraft Pre-flight Insertion Data outputs (Increment 2.1). Study and evaluate P-8A Multi mission Aircraft (MMA) Increment 2 and Broad Area Maritime Surveillance Unmanned Aerial System (BAMS UAS) mission planning, and begin prototype development of alternatives(Increment 3).</p> <p>For FY12, Mission Planning activities continue as part of the Maritime Patrol and Reconnaissance Force (MPRF) Interoperability focus area.</p> | | | | | |
| <p>Title: Maritime Patrol and Reconnaissance Force (MPRF) Interoperability/TacMobile Footprint Reduction</p> <p align="right">Articles:</p> <p>FY 2010 Accomplishments: Architecture Engineering: Assessed and analyzed TacMobile systems for opportunities to enhance flexibility and mobility offsetting additional aircraft interface device size/weight/cube by developing and incorporating increased modularity to transition from hardware independent solutions (Increment 3). Analyzed convergence of Tactical Operations Center (TOC) and Mobile Tactical Operations Center (MTOC) architecture toward common baseline to reduce platform unique training requirements and duplicative life cycle logistics costs. Explored automation of system functionality to reduce operator to operator and operator to machine interactions, to offset increasing workload as additional Maritime Patrol and Reconnaissance Aircraft (MPRA) platforms and capabilities are introduced that require TacMobile systems support (Increments 2.1 & 3). Explored solutions to minimize/consolidate MPRA media interface devices and streamline data transfer rates (Increment 3).</p> <p>FY 2011 Plans:</p> | 3.952 0 | 3.861 0 | 3.663 0 | - | 3.663 0 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 0486.: <i>Tactical Support Center</i> |
|---|---|---|

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|---------|---------|--------------|-------------|---------------|
| <p>Architecture Engineering: Begin design for integration of modular and hardware independent solutions to reduce mobile system architecture footprint. Begin design for convergence of TOC and MTOC architecture toward common baseline to reduce platform unique training requirements and duplicative life cycle logistics costs. Analyze and assess alternative courses of action for incorporating automation of TacMobile system functionality to reduce operator workload, to offset increasing MPRF Intelligence Surveillance and Reconnaissance (ISR) Mission/Function/Task growth. Begin design to achieve reduction and consolidation of MPRA media interface devices and to streamline data transfer rates. (Increment 3)</p> <p><i>FY 2012 Base Plans:</i> Conduct operational test and evaluation of Maritime Patrol Anti-Submarine Warfare (ASW) mission planning user environment, Maritime Patrol weapons planning environment, and TacMobile systems Aircraft Pre-flight Insertion Data outputs (Increment 2.1). Continue development of P-8A Multi mission Aircraft Increment 2 and Broad Area Maritime Surveillance Unmanned Aerial System (BAMS UAS) mission planning interoperability upgrades (Increment 3). (Continued from Mission Planning focus area above) Continue design for integration of modular and hardware independent solutions to reduce mobile system architecture footprint. Continue design for convergence of TOC and MTOC architecture toward common baseline to reduce platform unique training requirements and duplicative life cycle logistics costs. Begin development of automated TacMobile system functionality to reduce operator workload, to offset increasing MPRF ISR Mission/Function/Task growth. Continue design to achieve reduction and consolidation of MPRA media interface devices and to streamline data transfer rates. Develop functionality that supports multiple security enclaves in an expeditionary operating environment (Increment 3).</p> | | | | | |
| <p><i>Title:</i> Dark Fusion</p> <p align="right"><i>Articles:</i></p> <p><i>Description:</i> Dark Fusion</p> <p><i>FY 2012 Base Plans:</i> Integrate DARK Fusion capability into the ONI S2A system Technical demonstrations, Operational demonstrations and formal assessments</p> | - | - | 6.482 0 | - | 6.482 0 |
| Accomplishments/Planned Programs Subtotals | 11.596 | 15.972 | 12.993 | - | 12.993 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 0486.: <i>Tactical Support Center</i> |
|---|---|---|

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> <u>Base</u> | <u>FY 2012</u> <u>OCO</u> | <u>FY 2012</u> <u>Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
|--|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| • 0204271N/2246: <i>MPRF Mission Support</i> | 22.395 | 18.586 | 13.453 | 0.000 | 13.453 | 18.046 | 18.351 | 18.674 | 19.019 | Continuing | Continuing |
| • 0204660N/2906: <i>TacMobile</i> | 11.784 | 9.832 | 12.776 | 4.000 | 16.776 | 11.932 | 18.413 | 18.455 | 16.852 | Continuing | Continuing |

D. Acquisition Strategy

Evolutionary Acquisition - Increment 2.0 provided enhanced Beyond Line of Sight (BLOS) Global Information Grid (GIG) reach back capability, and supports Maritime Situational Awareness connectivity enhancements for data exchange with Maritime Patrol and Reconnaissance Force (MPRF) aircraft and with Coalition data networks. It incorporates Anti Submarine Warfare (ASW) acoustical analysis improvements and new P-3 aircraft ASW interfaces. Increment 2.1 will support migration to follow on Global Command and Control System - Maritime (GCCS-M) version 4.0.3 and introduction of the P-8A Multi-mission Maritime Aircraft (MMA) Increment 1. Increment 3 will support introduction of P-8A Multi-mission Maritime Aircraft (MMA) Increment 2, and the Broad Area Maritime Surveillance (BAMS) Unmanned Aerial System (UAS). Future increments will incorporate support for other Maritime Patrol and Reconnaissance Force (MPRF) Family of Systems (FOS) Aircraft and Systems. (U//FOUO) The Dark Fusion Joint Capabilities Technical Demonstration (JCTD) acquisitions will be executed by the JCTD Technical Manager (TM). The TM is the Naval Research Laboratory (NRL). NRL has three general ways for acquisition supporting the effort including: (1) Military Interdepartmental Purchase Request (MIPR) - Used for Government-to-Government transfers outside of NRL. (2) NRL Inter-Divisional Transfers - Commonly referred to as COOPs, this mechanism provides for transfers between and/or among NRL divisions. (3) Industry Contracts - These consist of a variety of vendor or OMNIBUS contract types, e.g., Indefinite Delivery, Indefinite Quantity (IDIQ) or Task Order Contracts for a range of procurements related to consultants, industry partners, materials and services, and/or System Engineering and Technical Assistance (SETA) support which has several large omnibus contracts that they will be utilizing to execute the goals of the project. The TM works closely with the other two JCTD managers including NORAD/NORTHCOM who is the Operational Manager (OM) setting the primary goals and metrics of the project and the Office of Naval Intelligence (ONI) who is the Transition Manager (XM) responsible for transition of the JCTD capabilities to operations. There are two sources of funds for this JCTD, Office of the Secretary of Defense (OSD) and Navy. In each case funds will be sent to the TM for execution.

E. Performance Metrics

The primary metrics utilized by the TacMobile program development process include achieving/maintaining all required Interface Exchange Requirements (IER's) and successful achievement of 100% of Key Performance Parameters for incremental upgrade threshold capabilities, as observed by Commander Operational Test Force representatives during Operational Evaluation. TacMobile Inc 2.1 development in FY-09, FY-10 and FY-11 supports increased IER requirements of 486% from 112 to 544. Development to support these new IER's tapers off in FY-11 as the Increment enters the Operational Evaluation Phase. Development focus then shifts to TacMobile Increment 3 efforts required to retain fielded IER's and update IER's to comply with emerging and evolving standards associated with P-8A Multi-mission Maritime Aircraft (MMA) Increment 2, and the Broad Area Maritime Surveillance (BAMS) Unmanned Aerial System (UAS), and evolving operational employment concepts.

(U//FOUO) Critical Operating Issues (COIs) and Measures of Performance (MOPs) are outlined in the Dark Fusion JCTD Implementation Directive. The JCTD will be conducting User Juries (UJs) for SME and analyst feedback; Technical Demonstrations (TDs) where new capabilities are technically reviewed; and Operational Demonstrations (ODs) in which an independent assessor will conduct a formal Joint Operational Utility Assessment (JOUA).

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 0486.: <i>Tactical Support Center</i> |
|---|---|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|--|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Primary Hardware Development | WR | SSC LANT; Northrop Grumman; SAIC:Charleston, SC; Pax River, MD | 3.714 | 1.670 | Oct 2010 | 0.776 | Oct 2011 | - | | 0.776 | Continuing | Continuing | Continuing |
| Systems Engineering | C/CPIF | SSC LANT; Northrop Grumman, SAIC, BAH, Solute:Charleston, SC; Pax River, MD; San Diego, CA | 26.622 | 8.932 | Oct 2010 | 0.480 | Oct 2011 | - | | 0.480 | Continuing | Continuing | Continuing |
| Training Development | C/CPIF | SSC LANT; SAIC; Solute:Charleston, SC; Pax River, MD; San Diego, CA | 0.977 | 0.384 | Nov 2010 | 0.500 | Nov 2011 | - | | 0.500 | Continuing | Continuing | Continuing |
| Tech Mgmt, Fusion, SOA, IT, Admin,Security | Various | NRL:Washington,DC | - | - | | 4.381 | Oct 2011 | - | | 4.381 | 0.000 | 4.381 | |
| ACINT w/ demo support and leave behind | Various | NRL:Washington DC | - | - | | 1.296 | Oct 2011 | - | | 1.296 | 0.000 | 1.296 | |
| NTM GEOINT data sources and support | Various | NRL:Washington DC | - | - | | 0.302 | Oct 2011 | - | | 0.302 | 0.000 | 0.302 | |
| Subtotal | | | 31.313 | 10.986 | | 7.735 | | - | | 7.735 | | | |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|-----------------------------------|--|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Software Development | C/CPIF | SSC LANT; Northrop Grumman; SAIC:Charleston, SC; Pax River, MD | 43.914 | 2.085 | Oct 2010 | 0.302 | Nov 2011 | - | | 0.302 | Continuing | Continuing | Continuing |
| Integrated Logistics Support | C/CPIF | SSC LANT; SAIC:Charleston, SC; Pax River, MD | 0.125 | 0.225 | Nov 2010 | 0.225 | Nov 2011 | - | | 0.225 | Continuing | Continuing | Continuing |
| Configuration Management | WR | | 0.100 | 0.175 | Nov 2010 | 0.175 | Nov 2011 | - | | 0.175 | Continuing | Continuing | Continuing |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 0486.: <i>Tactical Support Center</i> |
|---|---|---|

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|------------------------|---|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| | | SSC LANT; SAIC::Charleston, SC; Pax River, MD | | | | | | | | | | | |
| Technical Data | WR | SSC LANT; Northrop Grumman; SAIC:Charleston, SC; Pax River, MD | 0.160 | 0.220 | Oct 2010 | 0.220 | Oct 2011 | - | | 0.220 | Continuing | Continuing | Continuing |
| Studies & Analyses | C/CPIF | SSC LANT; Northrop Grumman; SAIC; Solute:Charleston, SC; Pax River, MD; San Diego, CA | 0.325 | 0.100 | Oct 2010 | 0.100 | Nov 2011 | - | | 0.100 | Continuing | Continuing | Continuing |
| Subtotal | | | 44.624 | 2.805 | | 1.022 | | - | | 1.022 | | | |

Remarks
^6.933M FY12 NORAD NORTHCOM Surveillance entered as System Engineering.

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Developmental Test & Evaluation | C/CPIF | SSC LANT; SAIC:Charleston, NC; Pax River, MD | 0.600 | 0.800 | Nov 2010 | 0.250 | Nov 2011 | - | | 0.250 | Continuing | Continuing | Continuing |
| Operational Test & Evaluation | MIPR | OPTEVFOR; SSC LANT; SAIC:Jacksonville, FL | 3.986 | 0.250 | Nov 2010 | 1.050 | Nov 2011 | - | | 1.050 | Continuing | Continuing | Continuing |
| Subtotal | | | 4.586 | 1.050 | | 1.300 | | - | | 1.300 | | | |

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 0486.: <i>Tactical Support Center</i> |
|---|---|---|

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | Target Value of Contract |
|---|------------------------|--|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Contractor Engineering Support | C/CPIF | Northrop Grumman; SAIC; BAH; Solute:Pax River, MD; Charleston, SC; San Diego, CA | 0.460 | 0.220 | Oct 2010 | 1.522 | Oct 2011 | - | | 1.522 | Continuing | Continuing | Continuing |
| Government Engineering Support | WR | SSC LANT:Charleston, NC | 0.937 | 0.384 | Nov 2010 | 0.384 | Nov 2011 | - | | 0.384 | Continuing | Continuing | Continuing |
| Program Management Support | C/CPIF | SSC LANT; PMW750; BAH; SAIC; Solute:Charleston, NC; San Diego, CA | 12.566 | 0.494 | Oct 2010 | 0.494 | Oct 2011 | - | | 0.494 | Continuing | Continuing | Continuing |
| Travel | WR | PMW750:San Diego, CA | 0.097 | 0.033 | Nov 2010 | 0.033 | Nov 2011 | - | | 0.033 | Continuing | Continuing | Continuing |
| CONOPS/TTPs Demos & MGMT Plan | Various | NRL:Washington DC | - | - | | 0.161 | Oct 2011 | - | | 0.161 | 0.000 | 0.161 | |
| Joint Operational Utility Assess. Reports | Various | NRL:Washington DC | - | - | | 0.198 | Oct 2011 | - | | 0.198 | 0.000 | 0.198 | |
| Transition system engineering support | Various | NRL:Washington DC | - | - | | 0.144 | Oct 2011 | - | | 0.144 | 0.000 | 0.144 | |
| Subtotal | | | 14.060 | 1.131 | | 2.936 | | - | | 2.936 | | | |
| Project Cost Totals | | | 94.583 | 15.972 | | 12.993 | | - | | 12.993 | | | |

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY
 1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE
 PE 0604231N: *Tactical Command System*

PROJECT
 0486.: *Tactical Support Center*

| Fiscal Year | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | 2014 | | | | 2015 | | | | 2016 | | | | | | | |
|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | | | | |
| Acquisition Milestones | | | | | | | ▲ | | | | ▲ | | | | | | | | ▲ | | | | ▲ | | | | | | | | | ▲ |
| Prototype Phase | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Development/Integration | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Delivery | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Software Deliveries | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ |
| Test & Evaluation Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Development Test | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operational Test | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Note: Increment 2.1 MS C 1 month shift to the left to synchronize fielding to support FY-12 Increment 2.1 Operational Test concurrent with P-8A Multi mission Aircraft (MMA) Increment 1 OT.
 Increment 2.1 FRP one month shift to the left to support P-8A Multi mission Aircraft (MMA) Increment IOC.
 Increment 3 Operational Test 1 month shift to the right to support concurrent P-8A Multi mission Aircraft (MMA) Increment 2 OT.
 Adds Inc 4

Exhibit R-4, Schedule Profile

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 0486.: <i>Tactical Support Center</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 0486.L39 | | | | |
| Software Delivery (Quarterly) | 1 | 2010 | 4 | 2016 |
| Develop CONOPS/TTPS | 1 | 2012 | 1 | 2013 |
| Tech Refresh Delivery | 1 | 2010 | 1 | 2013 |
| Build and Test Fusion System & Sources | 1 | 2012 | 1 | 2013 |
| Conduct User Juries | 3 | 2012 | 3 | 2012 |
| Developmental Test (Increment 2.1) | 1 | 2011 | 1 | 2011 |
| Operational Assessment (Increment 2.1) | 3 | 2011 | 3 | 2011 |
| Technical Demonstrations | 4 | 2012 | 4 | 2012 |
| Operator Training | 4 | 2012 | 4 | 2012 |
| Milestone C (Increment 2.1) | 3 | 2011 | 3 | 2011 |
| Developmental Test (Increment 2.1 Tech Eval) | 1 | 2012 | 1 | 2012 |
| Operational Demonstrations & Assessments | 4 | 2012 | 4 | 2012 |
| Operational Test (Increment 2.1) | 2 | 2012 | 2 | 2012 |
| Joint Military Utility Assessment Reports | 4 | 2012 | 4 | 2012 |
| Full Rate Production (Increment 2.1) | 3 | 2012 | 3 | 2012 |
| Initial Operational Capability (Increment 2.1) (TOC/MTOC) | 1 | 2013 | 1 | 2013 |
| Developmental Test (Increment 3.0) | 1 | 2013 | 1 | 2013 |
| Operational Assessment (Increment 3.0) | 4 | 2013 | 4 | 2013 |
| Milestone C (Increment 3.0) | 1 | 2014 | 1 | 2014 |
| Developmental Test (Increment 3.0 Tech Eval) | 2 | 2014 | 2 | 2014 |
| Operational Test (Increment 3.0) | 2 | 2014 | 2 | 2014 |

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 0486.: <i>Tactical Support Center</i> |

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Full Rate Production (Increment 3.0) | 2 | 2015 | 2 | 2015 |
| Initial Operational Capability (Increment 3) (TOC/MTOC) | 2 | 2015 | 2 | 2015 |
| Developmental Test (Increment 4) | 1 | 2016 | 1 | 2016 |
| Operational Assessment (Increment 4) | 2 | 2016 | 2 | 2016 |
| Milestone C (Increment 4) | 4 | 2016 | 4 | 2016 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 0709: <i>GCCS-M Maritime Applications</i> |
|---|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 0709: <i>GCCS-M Maritime Applications</i> | 19.926 | 28.216 | 17.580 | - | 17.580 | - | - | - | - | 0.000 | 65.722 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

Note

Beginning in fiscal year 2013, the Navy Command Control Air Planning Capability effort will be realigned from Global Command and Control System Maritime (GCCS-M) Maritime Applications (Project Unit 0709) to the Navy Air Operations Command and Control (NAOC2) program (Project Unit 3324).

A. Mission Description and Budget Item Justification

The Global Command and Control System Maritime (GCCS-M) system is the component of GCCS used in the afloat, ashore, and tactical/mobile maritime environments. GCCS-M meets the requirements of the tactical commander for a near real-time, fused common tactical picture with integrated intelligence services and databases. GCCS-M supports the Command, Control, Communication, Computers and Intelligence mission requirements of the Chief of Naval Operations, Fleet Commanders, Numbered Fleet Commanders, Officer in Tactical Command/Composite Warfare Commander, Type Commanders, Commander Submarine Operations Authority, Commander Task Force, Commander Amphibious Task Force, Commander Landing Force, Ship's Commanding Officer/Tactical Action Officer, and Joint Task Force Commanders, as well as other functional Maritime commanders. It also integrates both joint and service-unique Command and Control (C2) systems in order to support Joint task force and Navy afloat requirements. Efforts include design, integration, and test of Tactical Decision Aids, Navy status of Forces, mission planning and status update tools, and integration of GCCS-M baselines with weapons systems and Combat Direction Systems. These efforts will provide the strike group/force commanders with the information needed to enhance their war fighting capabilities. System scalability is addressed by developing modular capability and application sets that can be deployed based on the mission profile of a particular ship. Continuation of these efforts, especially in the area of undersea superiority, will significantly enhance tactical units' ability to perform precision engagements by consolidating the common operational, Tactical Data Link and undersea tactical pictures into a single comprehensive C2 picture, addressing the requirement of war fighters and significantly improving interoperability. GCCS-M continues a hardware transition to Common Computing Environments such as the Consolidated Afloat Networks and Enterprise Services along with a transition of capabilities into a Service Oriented Architecture. Currently, GCCS-M is a key system that is used to support real world operations afloat, ashore, and with tactical/mobile commanders. In fiscal year 2012, the program will test GCCS-M Increment 2 for group level ships and submarines. The program will continue integration efforts with other C2 / Command, Control, Communication and Computers systems within the Navy and Joint community, and will continue the development of maritime tactical command and control capabilities in support of fleet requirements.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|----------------------------------|---------|---------|--------------|-------------|---------------|
| Title: GCCS-M Increment 2 | 9.408 | 24.398 | 17.580 | - | 17.580 |
| Articles: | 0 | 0 | 0 | | 0 |
| FY 2010 Accomplishments: | | | | | |

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 0709: <i>GCCS-M Maritime Applications</i> |

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| <p>Continued Global Command and Control System - Maritime (GCCS-M) Increment 2 integration and testing of interfaces. Developed and tested interfaces with Program Executive Office Integrated Warfare Systems (PEO IWS) Command and Control (C2) systems, Ship Self-Defense Systems (SSDS) and systems from other Services, Agencies, and traditional and non-traditional partners. Migrated and integrated Maritime Command, Control, Communication, Computers and Intelligence capabilities in Increment 2 for Force Level and Unit Level ships to the Common Computing Environment/Consolidated Afloat Networks and Enterprise Services (CCE/CANES) environment and the Integrated Shipboard Network System environment, respectively. Investigated and adopted Service Oriented Architecture (SOA), opened standards-based design and data management methodologies, where appropriate.</p> <p>FY 2011 Plans: Continue Global Command and Control System Maritime (GCCS-M) Increment 2 integration and testing of interfaces. Transition GCCS-M Increment 2 for Force, Group and Unit Level ships to the CCE/CANES environment. Continue developing and testing interfaces with PEO IWS C2 systems, Ship Self-Defense Systems (SSDS) and systems from other Services, Agencies, and traditional and non-traditional partners. Investigate and adopt SOA, open standards-based design and data management methodologies, where appropriate. Fiscal Year (FY) 2011 program office will begin development of maritime tactical command and control capabilities in support of fleet requirements.</p> <p>FY 2012 Base Plans: Continue integration and testing of GCCS-M Increment 2 for Force, Group and Unit Level ships in the CCE/CANES environment. Begin testing of GCCS-M Increment 2 for submarines. Continue developing and testing interfaces with PEO IWS C2 systems, SSDS and systems from other Services, Agencies, and traditional and non-traditional partners. Continue investigating and adopting SOA, open standards-based design and data management methodologies, where appropriate. Continue development of maritime tactical command and control capabilities in support of fleet requirements.</p> | | | | | |
| <p>Title: Undersea Superiority/Undersea Forcenet</p> <p align="right">Articles:</p> | 10.518 0 | 2.089 0 | - | - | - |
| <p>FY 2010 Accomplishments: Finalized and completed the integration and testing of Undersea FORCEnet capabilities into the GCCS-M Increment 2 baseline. Started Composeable FORCEnet (CFn) migration to the Common Computing</p> | | | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 0709: <i>GCCS-M Maritime Applications</i> |
|---|---|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|---------|------------|--------------|-------------|---------------|
| Environment, a precursor to Consolidated Afloat Network Enterprise System (CANES). These capabilities were integrated into the Force Level and Ashore baseline implementations. FY 2011 Plans: Finalize and complete CFn migration to the GCCS M Increment 2 Force Level baseline. Continue integration of additional data sources and interfaces as required to meet program objectives. | | | | | |
| Title: Navy C2 Air Planning Capability FY 2011 Plans: The Command and Control (C2) Air Planning Capability portion provides initial engineering for software application transition to an afloat Common Computing Environment (CCE) and requirements development to support increased Joint interoperability and enhanced capability including theater level planning plus distributed planning and execution processes. Beginning in fiscal year 2012, effort will realign to Navy Air Operations Command & Control (NAOC2), Program Element 0604231N, Project Unit 3324. | - | 1.729 0 | - | - | - |
| Articles: | | | | | |
| Accomplishments/Planned Programs Subtotals | 19.926 | 28.216 | 17.580 | - | 17.580 |

C. Other Program Funding Summary (\$ in Millions)

| Line Item | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|-------------|
| • OPN/2608: <i>Trusted Information Systems</i> | 10.903 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 402,533.903 |
| • OPN/2618: <i>Navy Command and Control System</i> | 0.000 | 5.586 | 5.938 | 0.000 | 5.938 | 8.658 | 6.770 | 3.356 | 0.000 | 0.000 | 30.308 |

D. Acquisition Strategy

Increment 2 delivers two different materiel solutions: (1) Force Level, based on the Global Command and Control System-Joint (GCCS-J) 4.2 or higher software, and (2) Group and Unit Level, based on the Office of Naval Research (ONR) extensible Common Operational Picture (XCOP) software. This approach satisfies the current validated requirements, supports the accelerated retirement of legacy systems, and reduces overall risk to the program. Each solution will integrate maritime-specific capabilities and will be scalable to the ship class.

The Global Command and Control System-Maritime (GCCS-M) Program Office promotes full and open competition by competitively awarding software and Fleet support engineering services contracts. Additionally, the Program Office has awarded a Command and Control (C2) Indefinite Delivery Indefinite Quantity (IDIQ) Multi-

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | R-1 ITEM NOMENCLATURE | PROJECT |
|---|---|---|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | PE 0604231N: <i>Tactical Command System</i> | 0709: <i>GCCS-M Maritime Applications</i> |

Award Contract (MAC) from which task orders will be competitively awarded to one of the C2 IDIQ MAC awardees. Any contract awards for software development subsequent to the Milestone C will also be competitively awarded.

E. Performance Metrics

GCCS-M Increment 2 leverages software investments by Defense Information Systems Agency (DISA) and ONR to realize both the Force Level and Group/Unit Level material solutions. This greatly reduces the integration and testing costs associated with each software release. The Force Level solution will reside on Common Computing Environment/Consolidated Afloat Networks and Enterprise Services (CCE/CANES) architecture; the Group/Unit Level solution will be implemented on the current/future infrastructure. These Increment 2 software-only solutions eliminate the GCCS-M hardware procurement, installation and sustainment costs.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 0709: <i>GCCS-M Maritime Applications</i> |
|---|---|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| Systems Engineering | WR | SSC:SAN DIEGO, CA | 36.994 | 12.710 | Nov 2010 | 5.748 | Nov 2011 | - | | 5.748 | 0.000 | 55.452 | 55.452 |
| Software Development | SS/CPFF | NGMS:SAN DIEGO, CA | 82.881 | 9.898 | Nov 2010 | - | | - | | - | 0.000 | 92.779 | 92.779 |
| Software Development | C/CPIF | UNKNOWN:UNKNOWN | - | - | | 10.011 | Nov 2011 | - | | 10.011 | 0.000 | 10.011 | 10.011 |
| Subtotal | | | 119.875 | 22.608 | | 15.759 | | - | | 15.759 | 0.000 | 158.242 | 158.242 |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| Developmental Test & Evaluation | WR | SSC:SAN DIEGO, CA | 1.000 | 1.675 | Nov 2010 | 0.706 | Nov 2011 | - | | 0.706 | 0.000 | 3.381 | 3.381 |
| Operational Test & Evaluation | C/CPIF | COTF:NORFOLK, VA | 4.030 | 1.675 | Nov 2010 | 0.498 | Nov 2011 | - | | 0.498 | 0.000 | 6.203 | 6.203 |
| Subtotal | | | 5.030 | 3.350 | | 1.204 | | - | | 1.204 | 0.000 | 9.584 | 9.584 |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| Contractor Engineering Support | C/CPFF | SeaPort:SAN DIEGO, CA | 3.923 | - | | - | | - | | - | 0.000 | 3.923 | 3.923 |
| Program Management Support | C/CPFF | SeaPort:SAN DIEGO, CA | 18.981 | 2.258 | Nov 2010 | 0.617 | Nov 2011 | - | | 0.617 | 0.000 | 21.856 | 21.856 |
| Acquisition Workforce | Various | UNKNOWN:UNKNOWN | 0.101 | - | | - | | - | | - | 0.000 | 0.101 | 0.101 |
| Subtotal | | | 23.005 | 2.258 | | 0.617 | | - | | 0.617 | 0.000 | 25.880 | 25.880 |

| | | | Total Prior Years Cost | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|--|--|------------------------|---------|--|--------------|--|-------------|--|---------------|------------------|------------|--------------------------|
| Project Cost Totals | | | 147.910 | 28.216 | | 17.580 | | - | | 17.580 | 0.000 | 193.706 | 193.706 |

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 0709: <i>GCCS-M Maritime Applications</i> |
|---|---|---|

| Fiscal Year | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | 2014 | | | | 2015 | | | | 2016 | | | |
|--|---------------|-----------------|-----------------------|-----------|------|---|---|---|------|---|----------------|-----------------|------------|---|---|---|------|---|---|---|------------------|-----------|---|---|------|---|---|---|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Acquisition Milestones GCCS-M 4.1 (Increment 2) | | ▲ Inc 2 MS C | | | | | | | | | △ FL/UL FDR | | | | | | | | | | | | | | | | | |
| | | | ▲ Inc 2 - IOC | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | ▲ FDD ¹ | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Software Deliveries GCCS-M 4.1 (Increment 2) | ▲ PC | | ▲ UL | | | | | | | | △ GL (ED 1) | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | △ GL (FINAL) | | | | | | | | | | | | | | | | |
| Test & Evaluation Milestone Developmental Test | ▲ PC | | ▲ UL DT | | | | | | | | | | △ GL DT | | | | | | | | | | | | | | | |
| Operational Assessment | ▲ FL/PC OA | | ▲ ULO OA | | | | | | | | | | △ GLOA | | | | | | | | △ GL TECHEVAL | | | | | | | |
| Operational Test | | | ▲ PC OT | ▲ FLOT | | | | | | | | | | | | | | | | | | △ GLOT | | | | | | |

EXHIBIT R-4, Schedule Profile

| | |
|--------------------------------|--------------------------------------|
| Legend: | |
| DT - Developmental Test | PC - Patrol Coastal |
| FDD - Full Deployment Decision | UL - Unit Level |
| FDR - Fielding Decision Review | MS C - Milestone C |
| FL - Force Level | IOC - Initial Operational Capability |
| GL - Group Level | ED 1 - Engineering Drop 1 |
| OT - Operational Test | TECHEVAL - Technical Evaluation |
| OA - Operational Assessment | |

Notes:
1 - formerly Patrol Coastal (PC) Full Rate Production (FRP)

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 0709: <i>GCCS-M Maritime Applications</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 0709 | | | | |
| Patrol Coastal (PC) - Software Delivery | 1 | 2010 | 1 | 2010 |
| Patrol Coastal - Developmental Test | 1 | 2010 | 1 | 2010 |
| Force Level/Patrol Coastal - Operational Assessment (OA) | 1 | 2010 | 1 | 2010 |
| Increment 2 Milestone C | 3 | 2010 | 3 | 2010 |
| Patrol Coastal - Operational Test (OT) | 3 | 2010 | 3 | 2010 |
| Unit Level (UL) - Software Delivery | 3 | 2010 | 3 | 2010 |
| Unit Level - Developmental Test | 3 | 2010 | 3 | 2010 |
| Unit Level - Operational Assessment | 4 | 2010 | 4 | 2010 |
| Increment 2 - Initial Operating Capability (IOC) | 4 | 2010 | 4 | 2010 |
| Full Deployment Decision (FDD) | 4 | 2010 | 4 | 2010 |
| Force Level - Operational Test | 4 | 2010 | 4 | 2010 |
| Unit Level - Operational Test | 2 | 2011 | 2 | 2011 |
| Force/Unit Level - Full Decision Review (FDR) | 4 | 2011 | 4 | 2011 |
| Group Level (GL) - Software Delivery (ED 1) | 4 | 2011 | 4 | 2011 |
| Group Level - Software Delivery (FINAL) | 1 | 2012 | 1 | 2012 |
| Group Level - Development Test | 3 | 2012 | 3 | 2012 |
| Group Level - Operational Assessment | 4 | 2012 | 4 | 2012 |
| Group Level - Operational Test | 2 | 2013 | 2 | 2013 |
| Group Level - Technical Evaluation | 2 | 2013 | 2 | 2013 |
| Group Level - Full Decision Review | 4 | 2013 | 4 | 2013 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 2009: <i>OSIS Evolutionary Development (OED)</i> |
|---|---|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 2009: <i>OSIS Evolutionary Development (OED)</i> | 1.295 | - | - | - | - | - | - | - | - | 0.000 | 1.295 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

Note
Resources were transferred from PE 0604231N to PE 0304231N beginning in FY11.

A. Mission Description and Budget Item Justification

Radiant Mercury (RM): Trusted Information System (TIS) RM is a system that successfully provides accredited Cross Domain Solutions (CDS) to the Navy, DoD, and intelligence Community. TIS RM is a critical component of network-centric warfare, supporting joint operations and coalition forces world-wide. The ability to pass sensitive, yet critical, data across security domains and to our Coalition partners in a timely fashion can only be met by accredited Cross Domain Solution (CDS) systems such as RM. RM enables US Navy to operate in a multi-national environment.

TIS RM provides automated, bi-directional sanitization, transliteration and guarding capability for formatted and unformatted data between security enclaves. RM helps ensure critical intelligence is provided quickly to operational decision-makers. TIS RM provides the capability to disseminate information for operating forces worldwide, including the operating forces of key allies in Pacific, Central and Europe Command regions. This capability to move all-source intelligence-derived track information into the realm of the operational community significantly improves the situational awareness of tactical operators and planners. Additionally, it assists in providing critical operational information to intelligence and cryptologic analysts. Unformatted data is handled by the Information Review Process. The system provides cross domain services to a wide variety of customers including Combatant Commanders, Air Force (Shared Early Warning program), Army (Blue Force Tracking program), Navy (Global Command and Control System - Maritime and Automatic Identification System), Maritime Operations Centers, Distributed Common Ground System-Navy, Tactical Ranges, and numerous other DoD and Intelligence agencies.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|--------------|-------------|---------------|
| Title: Radiant Mercury (RM) | 1.295 | - | - | - | - |
| Articles: | 0 | | | | |
| FY 2010 Accomplishments: Investigated a follow-on update to version 5.0 to address emerging Cross Domain Solution requirements. Investigated and developed support for emerging communication mechanisms. Continued the development, integration and testing of emerging unformatted file types. Continued and investigated technologies related to | | | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 2009: <i>OSIS Evolutionary Development (OED)</i> |
|---|---|--|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|---------|---------|--------------|-------------|---------------|
| collaboration. Identified new requirements capabilities needed by the Navy programs and non-Navy customers post Radiant Mercury Version 5.0. | | | | | |
| Accomplishments/Planned Programs Subtotals | 1.295 | - | - | - | - |

C. Other Program Funding Summary (\$ in Millions)

| Line Item | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| • OPN/2608: <i>Trusted Information Systems-Radiant Mercury</i> | 13.552 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 313.194 |

D. Acquisition Strategy

Trusted Information Systems (TIS) Radiant Mercury (RM) provides automated, bi-directional sanitization, transliteration and guarding capability for formatted and unformatted data between security enclaves. RM helps ensure critical Indications and Warning intelligence is provided quickly to operational decision-makers. RM is actively involved in the production and cross domain dissemination of information for operating forces worldwide, including the operating forces of key allies involved in the Overseas Contingency Operations (OCO), in Pacific Command (PACOM), Europe Command (EUCOM) and Central Command (CENTCOM) regions.

E. Performance Metrics

Provide and develop certified, accredited Cross Domain Solution (CDS) and transfer capabilities to the Department of Defense and Intelligence Community, and provide the capability to disseminate and receive operational and intelligence information for 100% of authorized sites. Complete 100% of certification, system and security testing of Radiant Mercury (RM) version 5.x for release. Provide the capability to sanitize, downgrade, guard, and transliterate formatted data at various classifications, compartments and releasabilities to combat and operational commanders, coalition and allied forces at over 330 sites world wide.

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 2009: <i>OSIS Evolutionary Development (OED)</i> |
|---|---|--|

| Fiscal Year | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | 2014 | | | | 2015 | | | | 2016 | | | |
|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test & Evaluation Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Certification Test | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| System Test | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RM Software Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RM 5.0 SW Delivery NOTES: 1 | | | | △ | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

NOTES: Exhibit R-4, Schedule Profile

Note 1: Schedule slip from 3Q, 2010 to 4Q, 2010 due to delay in NSA certification of 5.0

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 2009: <i>OSIS Evolutionary Development (OED)</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|----------------------------------|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| <i>Proj 2009</i> | | | | |
| Software Delivery RM Version 5.0 | 4 | 2010 | 4 | 2010 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 2213: <i>Mission Planning</i> |
|---|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|-------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 2213: <i>Mission Planning</i> | 18.366 | 16.345 | 20.468 | - | 20.468 | 7.234 | 7.400 | 7.383 | 7.393 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Mission Planning: The Joint Mission Planning System (JMPS) is the CNO's designated automated mission planning system for the Navy. JMPS enables weapon system employment by providing the information, automated tools, and decision aids needed to rapidly plan aircraft, weapon, or sensor missions, load mission data into aircraft and weapons, and conduct post-mission analysis. JMPS is a mission critical system which is a co-development effort between the United States Navy and United States Air Force. Common requirements are identified and capabilities are developed and prioritized in an evolutionary approach. An individual JMPS mission-planning environment is a combination of the JMPS framework, common capabilities, and the necessary system hardware required to satisfy mission planning objectives. Most Tactical Naval Aviation platforms are dependent solely on JMPS to plan precision guided munitions, sensor systems, tactical data links, secure voice communications, and basic Safety of Flight functions. The following type/model/series naval aircraft are supported by JMPS: F/A-18 A-F, E-2C, EA-6B, S-3, MV-22, EA-18G, AV-8B and VH-3/VH-60. Future JMPS platforms include: CH-46E, CH-53, MH-53E, H-60B/F/H, UH-1N, P-3, KC-130T/J, C-2, AH-1W/Z, H-60 R/S, follow-on version of VH3/VH-60, P-8, E-2D, UH-1Y, H-53K, and C-130. As directed via the CNO's Navy Enterprise Architecture and Data Strategy policy, the next JMPS architecture version (Framework V 1.4) will support net-centric goals by providing route "publish and subscribe" capabilities.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|--------------|-------------|---------------|
| Title: JMPS Framework Version 1.2.4, V1.3.5, V1.4 & CC | 0.928 | 0.102 | 0.740 | - | 0.740 |
| Articles: | 0 | 0 | 0 | | 0 |
| Description: JMPS Framework (FW) Version 1.2.4 efforts add support of helicopter tool sets and transfer devices in addition to navigation. Due to the end of Microsoft support for Windows XP in April 2014, there is a requirement to change to Windows Operating System (OS) 7. FW Version 1.4 will incorporate Windows OS 7 and provide additional capabilities for all naval aircraft to include Service Oriented Architecture, air drop, air refueling and enhanced installation. Funding for FW 1.4 will be used to support system engineering processes, management interface controls, software architectural analysis, requirements management and a centralized website for Mission Planning Environment (MPE) developers. Due to a congressional mark against USAF Increment IV (PE 0208006F), which led to a Critical Change Review in accordance with Weapon Systems Acquisition Reform Act (WSARA), FW Version 1.4 was delayed. In order to accommodate the MPE and platform operational flight program (OFP) development schedules of EA-6B, V-22 and F/A-18, which also require the use and testing of Windows OS 7, the program needs to acquire FW Version 1.3.5 as an interim solution. Since MPE and platform OFP development may take up to 2 years to prepare for a new OS, FW Version 1.3.5 will incorporate the correct OS without significantly delaying the MPE and platform OFP development and | | | | | |

UNCLASSIFIED

| | | | | | |
|--|---|----------------|---|--------------------|----------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | | PROJECT 2213: <i>Mission Planning</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
| <p>test schedules. Migration to .NET environment in FWs 1.3 and 1.4 will enable interoperability improvements through utilization of services and will be supported by the Global Information Grid-Enterprise Services. Common Capabilities software updates augment core mission planning capabilities across multiple aircraft.</p> <p>FY 2010 Accomplishments: Completed FW 1.4 Interim Design Review #2 and Beta Release #1. Beta Release #2 not completed due to USAF Critical Change Review which led to a stop work in FY10.</p> <p>FY 2011 Plans: JMPS FW 1.3.5 Development Test and JMPS FW 1.4 Development.</p> <p>FY 2012 Base Plans: JMPS Framework 1.4 Beta #2 and Development Test. JMPS Framework 1.4 Functional Qualification Test, Operational Test Readiness Review, and Operational Test.</p> | | | | | |
| <p>Title: JMPS Expeditionary (JMPS-E)</p> <p align="right">Articles:</p> <p>Description: JMPS Expeditionary (JMPS-E): The goal of the JMPS-E team is to produce a scalable, tailorable, mission planning and execution monitoring tool for Amphibious Squadron staffs. The primary focus of this system is to provide an automated capability to assist planners with mission analysis, course of action development and automated creation of doctrinal orders based on planning data inputted into the system. Current expeditionary planning is done manually on paper charts. JMPS-E will provide a digital map enabling better response times to changing plans, easier distribution of planning artifacts and a reduction in human error during the planning process. The variety and geographically separated nature of forces involved with Ship to Shore Maneuver amplifies the need for web-based technologies to enable collaborative planning, improve overall situational awareness and enable the monitoring of mission execution from different locations. The primary outputs are tasking orders, route plans, battlespace geometries and decision briefs. The system will also incorporate modeling and simulation tools to rehearse and deconflict mission plans. This capability will be initially fielded using Framework Version 1.2.4.</p> <p>FY 2010 Accomplishments: Continued preparation for operation testing in Nov 2010.</p> <p>FY 2011 Plans:</p> | 0.470 0 | 0.325 0 | 0.237 0 | - | 0.237 0 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 2213: <i>Mission Planning</i> |
|---|---|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|--------------|-------------|---------------|
| Plan to initially field JMPS-E version 1.0.2 to PHIBRON 3 in Jan 2011. | | | | | |
| FY 2012 Base Plans: Full Operational Capability fielding to seven PHIBRONS. | | | | | |
| Title: MPE Integration and Test | 16.968 | 15.918 | 19.491 | - | 19.491 |
| Articles: | 0 | 0 | 0 | | 0 |
| Description: Mission Planning Environment (MPE) Integration and Test efforts support the Navy's developmental testing/operational testing, integration and system of system testing for MPE fielding. Efforts consist of integration of components provided by various developers into a platform-centric MPE and testing of the integrated MPE. MPE integration and testing results in a consistent and repeatable system configuration that enables stability and reliability. Current budget supports the integration and testing of 30 MPEs in FY10. | | | | | |
| FY 2010 Accomplishments: Integration and test of thirty MPEs are planned: AV-8B H50 2.1.0, AV-8B H60 3.0, AV-8B H70 4.0, BAMS 1.0, C-130 1.0, C-2A 1.0, C-2A 2.0, CNATRA 1.0, CNATRA 1.1, E-2C 2.0, E-2C 3.0, E-2C 4.0, E-2D 1.0, EA-6B I3B4 (Rel 5), EA-6B I3B5 (Rel 6), F/A-18 H6E/23X (2.3), F/A-18 H8E/G (2.4), JMPS-E 1.0, Marine Helo 2.0, Marine Helo 2.1, Marine Helo 3.0, MH-60 R/S 1.0, MH-60 R/S 2.0, Maritime Patrol Reconnaissance Force 1.0, Navy Legacy Helo 1.0, P-3 2.0, P-3 3.0, V-22 1.2 and VH-3/VH-60 1.0. | | | | | |
| FY 2011 Plans: Integration and test of twenty-three (23) MPEs are planned: AV-8B H60 3.0, BAMS 1.0, C-2A 3.0, C/KC-130 1.0 & 2.0, E-2C 4.0 & 5.0, E-2D 1.0, EA-6B I3B5 6.0 and I3B6 7.0, F/A-18 H6E/23X and H8E/2.4.0 and 25X/2.4.X, marine Helo 2.1 and 3.0, MH-60 R/S 1.0 and 2.0 MPRF 2.0, NLH 2.0, V-22 1.2 and 2.0 VH-3/VH-60 2.0 P-3 3.0. | | | | | |
| FY 2012 Base Plans: Integration and test of 19 MPEs planned: AV-8B H61 4.0 and H70 5.0, BAMS 1.0, C-2A 3.0, C/KC-130 2.0 and 3.0, E-2C 5.0, E-2D 1.0 and 2.0, EA-6B I3B6 7.0, FA-18 H8E/2.4.0 and 25X/2.4.X and H10E/27X, Marine Helo 3.0, MH-60R/S 2.0, MPRF 2.0, NLH 2.0, V-22 2.0, VH-3/VH-60 2.0. | | | | | |
| Accomplishments/Planned Programs Subtotals | 18.366 | 16.345 | 20.468 | - | 20.468 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 2213: <i>Mission Planning</i> |
|---|---|---|

C. Other Program Funding Summary (\$ in Millions)

| Line Item | FY 2010 | FY 2011 | FY 2012 | | | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To | |
|---|---------|---------|---------|-------|--------|---------|---------|---------|---------|------------|------------|
| | | | Base | OCO | Total | | | | | Complete | Total Cost |
| • OPN/287600: TAC A/C Mission Png System | 9.074 | 9.098 | 8.941 | 0.000 | 8.941 | 4.346 | 4.500 | 5.648 | 5.614 | Continuing | Continuing |
| • RDTE/3858: A/P Mission Png Support System | 81.577 | 83.554 | 74.172 | 0.000 | 74.172 | 76.036 | 82.732 | 96.123 | 0.000 | Continuing | Continuing |

D. Acquisition Strategy

Engineering Manufacturing Development efforts. The strategy entails a two-phased evolutionary approach to acquire the initial JMPS development effort. Phase I was a combined USAF/USN effort that obtained various studies, extensive joint requirements analysis, design to cost estimates, an architecture concept, and development statement of work. The Program's Phase I was planned to identify reduced costs strategies through software reuse from both USN Tactical Automated Mission Planning Systems and USAF Air Force Mission Support Systems (AFMSS) legacy mission planning programs. Additionally, this phase provided a risk reduction plan by identifying the most effective migration of existing mission planning systems. Phase I was awarded to two contractors, Post Phase I during the down select process, one contractor was selected to develop the JMPS architecture work and Version 1.0 basic flight planning components. Phase II focused on strike planning requirements (i.e., support Precision Guided Missions and other tactical data load intensive missions) in order to migrate platforms from legacy mission planning systems to JMPS. The USAF continued development of JMPS Version 1.3 and has contractual control of the program which is facilitated via a Mission Planning Enterprise Contract. The USN continued limited development in JMPS Version 1.2 which is focused on helicopter platform migrations. USN integration and fielding strategy changed to support a Mission Planning Environment focus, where framework and common components are integrated as bundled packages and fielded by airwings. The completion of Phase II is targeted for JMPS Version 1.4, which focuses on migration to a .net architecture and rejoins the multi-service enterprise to reduce costs through co-development. As platforms plan their migration to JMPS, the acquisition strategy, plan, and baseline will be updated in order to drive the retirement of legacy mission planning systems.

E. Performance Metrics

Average time to plan a flight: Threshold value is < 1 hour average time to plan a flight that includes a Military Training Route (MTR), routing to and from the MTR, kneeboard card production, Instrument Flight Rules (IFR) flight planning materials and a Data Transfer Device (DTD) Load.

Objective value is < 30 minutes average time to plan a flight that includes a MTR, routing to and from the MTR, kneeboard card production, IFR flight planning materials and a DTD Load.

Interoperability: Threshold value is 100% of top level Interoperability Exchange Requirements (IERs) designated critical will be satisfied.

Objective value is 100% of top level IERs will be satisfied.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 2213: <i>Mission Planning</i> |
|---|---|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Primary Software Development/CC | MIPR | USAF:Hanscom AFB, MA | 0.002 | 0.001 | Mar 2011 | 0.001 | Mar 2012 | - | | 0.001 | Continuing | Continuing | Continuing |
| Primary Software Development/FW | MIPR | USAF:Hanscom AFB, MA | 21.318 | - | | 0.739 | Feb 2012 | - | | 0.739 | Continuing | Continuing | Continuing |
| Primary Software Development/JMPS-E | MIPR | USAF:Hanscom AFB, MA | 4.281 | 0.343 | Feb 2011 | 0.150 | Feb 2012 | - | | 0.150 | Continuing | Continuing | Continuing |
| Award Fees 8% | MIPR | USAF:Hanscom AFB, MA | 1.609 | 0.061 | Feb 2011 | 0.074 | Feb 2012 | - | | 0.074 | Continuing | Continuing | Continuing |
| Primary Software Development | Various | Various:Various | 15.778 | 1.925 | Jan 2011 | 2.325 | Jan 2012 | - | | 2.325 | Continuing | Continuing | Continuing |
| No Longer Funded in FYDP | Various | Various:Various | 83.882 | - | | - | | - | | - | 0.000 | 83.882 | |
| Subtotal | | | 126.870 | 2.330 | | 3.289 | | - | | 3.289 | | | |

Remarks

PB11 was incorrectly titled Primary Hardware Development. Correction made to Primary Software Development. 6% award fees based on actual awards placed on various Hanscom AFB contracts.

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Integrated Logistics Support | C/FFP | Lockheed Martin:Marlton, NJ | 0.946 | 0.400 | Jan 2011 | 0.962 | Jan 2012 | - | | 0.962 | 2.538 | 4.846 | 4.846 |
| Integrated Logistics Support | WR | NAWCWD:Point Mugu, CA | - | 0.500 | Jan 2011 | 0.453 | Jan 2012 | - | | 0.453 | Continuing | Continuing | Continuing |
| No Longer Funded FYDP | WR | SPAWAR:Philadelphia, PA | 11.538 | - | | - | | - | | - | 0.000 | 11.538 | |
| Subtotal | | | 12.484 | 0.900 | | 1.415 | | - | | 1.415 | | | |

Remarks

Integrated Logistics Support Lockheed Martin was changed to the correct Contract Method C/FFP.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 2213: <i>Mission Planning</i> |
|---|---|---|

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| System Eng Integration & Test | WR | NAWCWD:Point Mugu, CA | 47.379 | 11.415 | Dec 2010 | 13.214 | Dec 2011 | - | | 13.214 | Continuing | Continuing | Continuing |
| Test & Evaluation | WR | COMOPTEVFOR:Norfolk, VA | 0.851 | 0.150 | Jan 2011 | 0.350 | Jan 2012 | - | | 0.350 | Continuing | Continuing | Continuing |
| Subtotal | | | 48.230 | 11.565 | | 13.564 | | - | | 13.564 | | | |

Remarks
System Eng Integration & Test (NAWCWD) increase in FY12 due to new MPE requirement for Operating System update.

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Program Management Support | WR | NAWCAD:Patuxent River, MD | 28.601 | 1.550 | Dec 2010 | 2.200 | Dec 2011 | - | | 2.200 | Continuing | Continuing | Continuing |
| Subtotal | | | 28.601 | 1.550 | | 2.200 | | - | | 2.200 | | | |

| | Total Prior Years Cost | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|-------------------------------|----------------|--------|---------------------|--------|--------------------|---|----------------------|-------------------------|-------------------|---------------------------------|
| Project Cost Totals | | 216.185 | 16.345 | | 20.468 | | - | 20.468 | | | |

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: Research, Development, Test & Evaluation, Navy
BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

PE 0604231N: Tactical Command System

PROJECT

2213: Mission Planning

| Mission Planning | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|-------------------------------|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| System Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Software Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reviews | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test and Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Technical Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operational Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contract Awards | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604231N - 2213

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 2213: <i>Mission Planning</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Mission Planning | | | | |
| Acquisition Milestones: JMPS V1.4 Initial Operational Capability (IOC) | 3 | 2013 | 3 | 2013 |
| System Development: Software Development: JMPS V1.4 Software Development | 2 | 2011 | 1 | 2012 |
| System Development: Reviews: JMPS V1.4 Operational Test Readiness Review (OTRR) | 3 | 2012 | 3 | 2012 |
| Test and Evaluation: Technical Evaluation: JMPS V1.2.3 Mission-Planning Environment (MPE) Integration/Validation | 1 | 2010 | 4 | 2010 |
| Test and Evaluation: Technical Evaluation: JMPS V1.2.4 MPE Integration/Validation | 1 | 2010 | 4 | 2013 |
| Test and Evaluation: Technical Evaluation: JMPS V1.3.5 Development Test | 2 | 2011 | 3 | 2011 |
| Test and Evaluation: Technical Evaluation: JMPS V1.3.5 Mission-Planning Environment (MPE) Integration/Validation | 4 | 2011 | 4 | 2013 |
| Test and Evaluation: Technical Evaluation: JMPS V1.4 Functional Qualification Test (FQT) | 1 | 2012 | 1 | 2012 |
| Test and Evaluation: Technical Evaluation: JMPS V1.4 Development Test | 1 | 2012 | 2 | 2012 |
| Test and Evaluation: Technical Evaluation: JMPS V1.4 MPE Integration/Validation | 1 | 2012 | 4 | 2016 |
| Test and Evaluation: Operational Evaluation: JMPS V1.4 Operational Test (OT) | 4 | 2012 | 1 | 2013 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 2307: <i>Shipboard LAN/WAN</i> |
|---|---|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 2307: <i>Shipboard LAN/WAN</i> | 2.387 | 0.464 | 0.308 | - | 0.308 | 0.315 | - | - | - | 0.000 | 3.474 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

The Shipboard LAN / WAN / Integrated Shipboard Network System (ISNS) provides Navy ships, including submarines, and Ashore sites with reliable, high-speed SECRET and UNCLASSIFIED Local Area Networks (LAN)s and wireless network technologies. The LAN provides Basic Network Information Distribution Services (BNIDS) and access to the Defense Information Systems Network (DISN) Wide Area Network (WAN) (Secure and Nonsecure Internet Protocol Router Network -SIPRNet and NIPRNet). It provides the network infrastructure and services to enable real-time information exchange within the ship and between afloat units, Component Commanders, and Fleet Commanders. It is a key factor in the implementation of the Navy's portion of Joint Vision 2020 and the migration of existing legacy systems into the IT-21 strategy. Program funding supports the design, development and testing of the ISNS LAN for surface ships, shore sites, and SubLAN for submarines.

The ISNS program maximizes the use of both Commercial off the Shelf (COTS) software and hardware. Engineering and technical support is provided so that existing systems will keep pace with hardware and software that continues to be commercially supported. ISNS uses a combination of high speed wired and wireless switches, routers, access points, servers, workstations and operating system software technologies to provide network access to classified and unclassified applications for use by ship's force, embarked units, embarked commanders and their staffs. Under the Navy's information modernization strategy, full synchronization of shipboard networks, mission and information applications, radio/satellite communications, and shore data dissemination infrastructure are necessary to ensure end-to-end mission capability. The Integrated Shipboard Networking System program is closely synchronized on a ship by ship basis with over 460 different systems of application configurations including the following: Global Command and Control System Maritime (GCCS-M), Navy Tactical Command Support System (NTCSS), Navy Standard Integrated Personnel System (NSIPS), Theatre Medical Information Program - Maritime (TMIP-M), Defense Messaging System (DMS), Automated Digital Network System (ADNS), Global Broadcasting System (GBS), Tactical Tomahawk Weapons Control System (TTWCS) and Information Security (INFOSEC) programs. The ISNS program provides the infrastructure to support implementation/fielding of these programs. The LAN modernization rate must keep pace with hardware and software that is supported commercially in order to provide a supportable and secure FORCEnet infrastructure. ISNS includes Afloat Core Services (ACS) which is the mechanism to deliver the FORCEnet interface to the warfighter. ACS provides a composeable warfighting environment enabling dynamic configuration of capabilities tailored to meet specific warfighting missions. As the warfighting mission changes, the capabilities or services can be re-configured on the fly to meet the new warfighting requirement. This dynamic reconfiguration of services also known as "plug and fight" meets the composeable services vision of FORCEnet. ACS also provides the common core enterprise services and technical framework to allow organizations ubiquitous access to reliable, decision-quality information through a net-based services infrastructure and applications to bridge real-time and near-real-time communities of interest (COI). ACS will empower the end user to pull information from any available source, with minimal latency, to support the mission. Its capabilities will allow Department of the Navy as well as Global Information Grid (GIG) users to task, post, process, use, store, manage and protect information resources on demand for warfighters, policy makers and support personnel. ACS will utilize a spiral process for delivering capability to the warfighter.

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 2307: <i>Shipboard LAN/WAN</i> |
| <p>The ISNS Inc 1, Sensitive Compartmented Information (SCI) Networks and Combined Enterprise Regional Information Exchange System (CENTRIXS) programs began migration to ISNS Inc 2/Consolidated Afloat Networks and Enterprise Services (CANES) in FY09. ISNS Inc 2/CANES will serve to transition numerous Fleet networks to a single, adaptive, available, secure computing network infrastructure while delivering enhanced technologies in: Integrated Voice, Video and Data; Common Computing Environment (CCE); ACS; and Multi-Level Security (MLS)/Cross Domain Solutions (CDS). Development transition to CANES began in FY 2010.</p> <p>The Combined Enterprise Regional Information Exchange System - Maritime (CENTRIXS-M) program provides US Navy ships and submarines with secure, reliable, high-speed Local Area Network (LAN) with access to the Coalition Wide Area Network (WAN) to include CENTRIXS Four-Eyes (CFE), Global Counter Terrorism Task Force (GCTF), NATO Information Data Transfer System (NIDTS), Multinational Coalition Force - Iraq (MCFI), bilateral networks such as CENTRIXS-U.S. Japan (J) and CENTRIXS-US. Korea (K), and Communities Of Interest (COI) virtual networks such as Coalition Naval Forces - CENTCOM (CNFC), and Cooperative Maritime Forces - Pacific (CMFP). The CENTRIXS system provides real-time tactical and operational information sharing at the SECRET and SECRET REL (Releasable) level between naval afloat units, Component Commanders, Fleet Commanders, Numbered Fleet Commanders and Coalition Forces/Allies. When the CENTRIXS network is combined with other subsystems (Radio/Satellite Comms), it delivers an end-to-end network centric warfighting capability. CENTRIXS is the primary means for sharing classified, but releasable, data with coalition partners to enable the Navy to mean the National Strategy for Maritime Domain Awareness. The CENTRIXS program is comprised of Block 0, I, and II systems fielded across the Fleet, and Increment 1 which provides a network infrastructure that allows simultaneous access to multiple Coalition WAN and incorporates the Common PC Operating System Environment (COMPOSE) which provides a server and client operating system environment for other applications and collaborative tools such as Same time Chat, Domino and Command and Control PC (C2PC) as means to share a Common Operational Picture (COP) and exchange information using Collaboration At Sea (CAS). The CENTRIXS program uses both Commercial Off The Shelf (COTS) hardware and software and Open Standards to maximize commercial technology and support. Engineering and technical support ensures existing systems are upgraded and modified to keep pace with current technology and industry.</p> <p>Funding supports the design, development and testing of the CENTRIXS LAN for surface platforms and the CENTRIXS Network Operations Center (NOC). The goal of the CENTRIXS program is to provide a cost-efficient, operationally effective network that dramatically reduces current infrastructure requirements while maximizing operational flexibility and warfighter utility in a coalition environment. Multi-Level Thin Client (MLTC) architecture supports shipboard Space, Weight and Power (SWAP) reductions and includes initiatives for server virtualization (ability to run multiple servers on a single server), drop scalability leveraging existing SIPRNET drops, remote authentication and remote system management. Additionally, funding will provide design, development and testing for a Unit Level MLTC system (provides a compressed shipboard rack/client footprint) and initiatives to include Language Translation, COI and Network Enclave Agility (ability to dynamically shift between all coalition networks and COIs) and Multi-Level Chat (a Cross Domain Solution (CDS) chat capability). The CENTRIXS-M program will begin migrating to CANES in FY12. ISNS Inc 2/CANES will serve to transition numerous Fleet networks to a single, adaptive, available, secure computing network infrastructure while delivering enhanced technologies in: Integrated Voice, Video and Data; Common Computing Environment (CCE); Afloat Core Services (ACS); and Multi-Level Security (MLS)/Cross Domain Solutions (CDS).</p> <p>Submarine Local Area Network (SubLAN): The SubLAN program provides Navy submarines, with reliable, high-speed mission critical SECRET and mission critical UNCLASSIFIED Local Area Networks (LANs). When the SubLAN network is combined with other subsystems, it delivers an end-to-end network-centric warfare capability by hosting applications capable of connectivity with coalition communications enclaves. The SubLAN program provides network infrastructure including an</p> | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 2307: <i>Shipboard LAN/WAN</i> |
|---|---|--|

Unclassified Wireless Local Area Network (UWLAN), servers, and the Common Personal Computer Operating System Environment (COMPOSE) which provides the operating system, office automation, security, and other basic network services used by all hosted applications.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|------------|------------|-----------------|----------------|------------------|
| <p>Title: Integrated Shipboard Network System (ISNS)</p> <p align="right">Articles:</p> | 0.795 0 | 0.419 0 | 0.308 0 | - | 0.308 0 |
| <p>FY 2010 Accomplishments: Completed development of the ISNS Increment 1 and 2/CANES capabilities consolidating Afloat LANs and Enterprise Services aboard ships and Ashore sites. These capabilities included increased availability to mission critical level systems, multiple security enclaves, and application hosting, Afloat Core Services (ACS), and collaboration services. Developed replacement solutions for End of Life (EOL) equipment as EOL occurs. Continued support of sea demonstrations for the following technologies: 1. Identified Management/Service Security, including Entity Management & Credential Management. 2. Collaboration, including Session Management and Presence & Awareness. 3. Discovery, including Content/Device/People Discovery. 4. Cross Domain Solutions (CDS) 5. Secure classified wireless 6. ACS</p> <p>Continued working with ISNS labs on Early Adopter and ACS testing and integration. Investigated new technology associated with classified wireless LANs. Supported Trident warrior exercises. Supported Compose 4.0 DT & OT events. Program began transition from ISNS Inc 2/CANES to CANES. Continued support for wireless initiatives towards a more interoperable and secure wireless network infrastructure. Supported Certification and Accreditation activities for efforts under development.</p> | | | | | |
| <p>FY 2011 Plans: Continue transition support from ISNS Increment 1 to CANES Inc 1 through continued consolidation of Afloat LANs and Enterprise Services aboard ships and Ashore sites. Continue development of replacement solutions for End of Life (EOL) equipment as EOL occurs. Develop replacement solutions for End of Sale (EOS) equipment/software as EOS occurs. Support Certification and Accreditation activities for efforts under development. Continue support of at sea demonstrations. Continue working with the ISNS labs on Early Adopter and ACS testing and integration. Investigate new technologies associated with classified wireless LANs. Support Test and Evaluation events for efforts under development.</p> | | | | | |
| <p>FY 2012 Base Plans:</p> | | | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 2307: <i>Shipboard LAN/WAN</i> |
|---|---|--|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|------------|------------|--------------|-------------|---------------|
| Continue development of replacement solutions for End of Life (EOL) equipment as EOL occurs. Develop replacement solutions for End of Sale (EOS) equipment/software as EOS occurs. Support Certification and Accreditation activities for efforts under development. Continue support of at sea demonstrations. | | | | | |
| Title: Combined Enterprise Regional Information Exchange System (CENTRIXS) Articles: | 1.021 0 | - | - | - | - |
| FY 2010 Accomplishments: Performed Environmental Qualification Testing on Unit Level Increment I system. Conducted separate Development Test/Operational Test for both Force Level and Unit Level Inc I systems. Developmental effort on COMPOSE 4.0 for Increment I system. | | | | | |
| Title: Submarine Local Area Network (SubLAN) Articles: | 0.571 0 | 0.045 0 | - | - | - |
| FY 2010 Accomplishments: Performed Operational Test Readiness Review (OTRR) and Follow on Operational Test & Evaluation (FOT&E) of Inc. 1. | | | | | |
| FY 2011 Plans: Investigate and test server architecture in support of Commercial off the Shelf (COTS) End-of-Life (EOL). | | | | | |
| Accomplishments/Planned Programs Subtotals | 2.387 | 0.464 | 0.308 | - | 0.308 |

| C. Other Program Funding Summary (\$ in Millions) | | | | | | | | | | | |
|--|----------------|----------------|---------------------|--------------------|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012 Base</u> | <u>FY 2012 OCO</u> | <u>FY 2012 Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To Complete</u> | <u>Total Cost</u> |
| • OPN/3050/ISNS: <i>ISNS</i> | 136.116 | 124.038 | 55.655 | 0.000 | 55.655 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 315.809 |
| • OPN/3050/CENTRIX: <i>CENTRIXS-M</i> | 14.631 | 15.912 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 30.543 |
| • OPN/3050/SubLAN: <i>SubLAN</i> | 29.849 | 22.440 | 30.461 | 0.000 | 30.461 | 30.648 | 0.000 | 0.000 | 0.000 | 0.000 | 113.398 |
| • OPN/3051: <i>CENTRIXS-M MDA</i> | 4.898 | 9.250 | 24.022 | 0.000 | 24.022 | 1.064 | 0.000 | 0.000 | 0.000 | 0.000 | 39.234 |

D. Acquisition Strategy
These programs begin transitioning to CANES in FY 2011.

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 2307: <i>Shipboard LAN/WAN</i> |

E. Performance Metrics

The Shipboard LAN/WAN/Integrated Shipboard Network System (ISNS) development efforts are nearing completion and is currently 98.1% completed. The ISNS, CENTRIXS-M and SubLAN programs will transition to CANES in FY14. ISNS development and testing against ISNS variants as well as Early Adopter Common Computing Environment (CCE) testing on the Lincoln Strike Group met and exceeded all measures of effectiveness and suitability of the system. Technologies developed for the CENTRIXS-M Increment 1 system included the Multi-Level Thin Client (MLTC) and associated accreditation and testing. SubLAN development efforts included SubLAN End of Life solutions and Early Adopter CANES solutions. Remaining funds in FY12-13 or 1.9% of the project will support ISNS efforts to include Trident Warrior At Sea Demonstrations, annual certification and accreditation efforts and investigate End of Life (EOL)/End of Sale (EOS) technology replacement options. X2307 Shipboard LAN/WAN/Integrated Shipboard Network System funding completes in FY2013.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|------------------------------------|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 2351: <i>MDA</i> |
|---|---|------------------------------------|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|----------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 2351: <i>MDA</i> | 19.485 | 19.630 | - | - | - | - | - | - | - | 0.000 | 39.115 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

Note

In FY12, category Deep Lightning Bolt / Rapid Capability Development was cancelled.
In FY12 MDA RDTEN funding was realigned to DCGS-N PE 0305208N.

A. Mission Description and Budget Item Justification

Maritime Domain Awareness (MDA): MDA is the effective understanding of anything associated with the global maritime domain that could impact the security, safety, economy or environment. MDA objectives include the persistent monitoring of and ability to access and maintain data on vessels, cargo, people, and infrastructures; and the ability to collect, fuse, analyze, and disseminate information to decision makers to facilitate effective understanding. This initiative will identify, develop and transition data fusion and mining, replication, sharing and assessment tools to achieve MDA across the non-classified, unclassified and classified enclaves. Additionally, MDA will ensure capability integration with related activities and sites (both technologies and facilities). This warfighting enhancement is designed to achieve an all-source MDA capability, leveraging existing MDA initiatives in the developmental phase and ensuring the best products transition to strategic, operational and tactical users within the Distributed Common Ground System - Navy (DCGS-N) Increment 2 Program of Record. This includes the enhanced and future fusion and analysis capabilities defined in the Maritime Fusion and Analysis Initial Capabilities Document (MFAS ICD), DCGS Enterprise ICD, and the DCGS-N Increment 2 Gap Analysis. The products support all-source data fusion, development and replication of MDA and Intelligence Surveillance and Reconnaissance (ISR) related data gathered in various operations such as Expanded-Maritime Intercept Operations (E-MIO), sharing information with allies, and developing subject matter expertise and assessment tools to achieve MDA and enhance operational decision making.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|--------------|-------------|---------------|
| Title: MDA | 13.842 | 13.164 | - | - | - |
| Articles: | 0 | 0 | | | |
| FY 2010 Accomplishments: | | | | | |
| Maritime Domain Awareness (MDA): Spiral 1 Prototype (SP1P): Provided support for continued prototype integration for SP1P. Accepted delivery of the MDA Enterprise Node in August 2010 to correct the major operational deficiencies identified during the MDA Quick Readiness Assessment and the Operational Utility Assessment. Enterprise Node is targeted to begin providing services to users in Q3FY11 following testing and certification. Supported corrective and adaptive system engineering activities as the Joint Capability Technology Demonstration (JCTD) prototype transitioned to operational capability in FY10. Ensured that issues identified during the Joint and Navy | | | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|------------------------------------|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 2351: <i>MDA</i> |
|---|---|------------------------------------|

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|--------------|-------------|---------------|
| <p>Operational Assessments were resolved, and that SP1P maintained interoperability with Joint and Naval Systems as Joint and Navy Service Oriented Architecture (SOA) frameworks were established. Supported verification and validation (V&V), and developmental regression and acceptance testing for baseline changes required for systems engineering activities. Provided Prototype hardware, software and other technical support for components deployed at Commander: 2nd, 3rd, 4th, 5th (Navy, Central Command), 6th (Naval Forces Europe), and 7th Fleets as well as Pacific Fleet (PACFLT), U.S. Fleet Forces Command (USFF), National Maritime Intelligence Center (NMIC), Maritime Intelligence Fusion Center (MIFC) Atlantic (LANT), MIFC Pacific (PAC), Joint Interagency Task Force (JIATF)-South, JIATF- West and the MDA Enterprise Node. Supported the National Maritime Intelligence Center (NMIC) and MIFC LANT/PAC to facilitate data integration with the Intelligence Community systems, Department of Homeland Security (DHS) and Department of Justice (DOJ). Continued support of the Maritime Information Exchange Model (MIEM) to promote interagency and coalition data sharing. MDA also supported the development and replication of ongoing MDA related data gathering activities, such as Expanded-Maritime Intercept Operations (E-MIO), as well as ensured MDA capabilities were projected through non-classified, unclassified and classified networks.</p> <p>Maritime Fusion and Analysis Services (MFAS) Increment and Information Intelligence Access, Data Sharing and Dissemination (I2ADSD) Increment: Defined an executable transition path for MDA capabilities. Developed the transition strategy that ensures that MFAS capabilities will be delivered to the fleet as part of the larger DCGS-N ISR capabilities package. Continued work to integrate the MDA, DCGS-N, and IMA architectures to provide operationally useful and cost effective solutions for the Navy. Conducted initial integrated requirements analysis to identify critical capabilities to be developed and fielded in the initial DCGS-N Increment 2 release.</p> <p>FY 2011 Plans: MDA Spiral 1: Support initial Interoperability testing for fielded capabilities following the introduction of the Enterprise Node in Q3FY11.</p> <p>Maritime Fusion and Analysis Services (MFAS) Increment and Information Intelligence Access, Data Sharing and Dissemination (I2ADSD) Increment: Transition the MFAS and I2ADSD pre-acquisition efforts to support DCGS-N Increment 2 Activities. Will complete a DCGS-N Material Development Decision in Q1 FY2011 that will allow the development and assessment of prototype MFAS and multi-intelligent ISR fusion and analytical capabilities to address key gaps identified in the MFAS ICD, MFAS Analysis of Alternatives, the DCGS Enterprise ICD, and the DCGS-N Increment 2 Gap Analysis. Will complete a DCGS-N MFAS Business Case</p> | | | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|------------------------------------|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 2351: <i>MDA</i> |
|---|---|------------------------------------|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|--------------|-------------|---------------|
| Analysis, develop a DCGS-N Capabilities Description Document and conduct initial prototyping activities. Begin requirements analysis and system design for DCGS-N Increment 2 releases. | | | | | |
| Title: DLB | 5.643 | 6.466 | - | - | - |
| Articles: | 0 | 0 | | | |
| FY 2010 Accomplishments: Deep Lightning Bolt / Rapid Capability Development (DLB/RCD): Transformational initiative for the Navy which focused on the introduction of technologies that enhanced the Navy's Sea Power 21 objectives and supported network centric warfare and operations. Provided a low cost initiative creating the ability to react immediately to newly discovered technology(s), enemy threat(s) or to respond to significant and urgent safety situations through special, tailored procedures designed to: - Integrate and demonstrate, hardware / software solutions for either immediate or near term deployment - Expedite technical, programmatic, and financial decisions in order to make emergent technologies available to the Fleet in a timely manner - Expedite, within statutory limitations, the procurement and contracting processes. - Offer disruptive technologies with the intent of leaping technology within traditional programs of record | | | | | |
| FY 2011 Plans: Deep Lightning Bolt / Rapid Capability Development (DLB/RCD): Transformational initiative for the Navy which will focus on the introduction of technologies that will enhance the Navy's Sea Power 21 objectives and support network centric warfare and operations. A low cost initiative which will provide the ability to react immediately to newly discovered technology(s), enemy threat(s) or to respond to significant and urgent safety situations through special, tailored procedures designed to: - Integrate and demonstrate, hardware / software solutions for either immediate or near term deployment - Expedite technical, programmatic, and financial decisions in order to make emergent technologies available to the Fleet in a timely manner - Expedite, within statutory limitations, the procurement and contracting processes. | | | | | |
| Accomplishments/Planned Programs Subtotals | 19.485 | 19.630 | - | - | - |

UNCLASSIFIED

| | | |
|---|---|------------------------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 2351: <i>MDA</i> |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

The Maritime Domain Awareness (MDA) Spiral 1 Fielded Project (also known as Spiral 1 Prototype (SP1P)) entered the sustainment phase based on direction by Assistant Secretary of the Navy, Research, Development and Acquisition (ASN RDA) in 4QFY09. MDA Spiral 1 will be maintained and sustained until it can transition or be replaced by a Program of Record capability.

Pre-acquisition activities for MDA follow-on efforts commenced in FY10. A Maritime Fusion and Analysis Services (MFAS) Initial Capabilities Document (ICD) was staffed for approval in FY10. An approved ICD will support a Material Development Decision (MDD) to transition to a Program of Record. That Program of Record is Distributed Common Ground System - Navy (DCGS-N) with MFAS capabilities migrating into DCGS-N Increment 2. The acquisition strategy coordinated with OPNAV N2 N6 and ASNRD&A calls for the use of a streamlined IT acquisition in keeping with the general recommendations of the Defense Science Board Information Technology (DSB IT) acquisition report. For the set of activities leading up to a Program Build Decision (Milestone B) the activities are compatible allowing the pre-acquisition to move forward independent of the ultimate decision regarding the use of improved IT acquisition procedures.

E. Performance Metrics

Maritime Domain Awareness (MDA): MDA Spiral 1 Fielded is in compliance with Net-Centric Enterprise Solutions for Interoperability (NESI) guidance and conforms to the Net-Centric Enterprise Services (NCES) standards; fuses multiple disparate data sources, analyzes MDA activity to identify potential threats to security of the United States and US interests and forces around the world. MDA will alert based on a number of simple and complex user defined conditions improving efficiency and effectiveness in monitoring the maritime domain for threats. MDA provides accurate MDA vessel track information to the common operational picture; generates alerts for vessels entering and existing geospatial, user defined, areas of interest; anomaly alerts will be verified at 65% accuracy against ground truth; reduction in the number of manual steps required to find and retrieve MDA relevant data; SP1P material availability will be no less than 85%. MDA provided Extended Maritime Intercept Operations (EMIO) capabilities have reduced the time between data entry by the boarding team and data analysis both in theater and globally. MDA provided EMIO capabilities are improving all elements of the MIO process.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 3032: <i>NTCSS (Naval Tactical Command Spt Sys)</i> |
|---|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 3032: <i>NTCSS (Naval Tactical Command Spt Sys)</i> | 5.971 | 3.661 | 18.524 | - | 18.524 | 12.639 | 7.974 | 5.050 | 0.928 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

The Naval Tactical Command Support System (NTCSS) is a multi-function program designed to provide standard tactical support information systems to various afloat and associated shore-based fleet activities. The mission is to provide the Navy and Marine Corps with an integrated, scalable system that supports the management of logistical information, personnel, material and funds required to maintain and operate ships, submarines, and aircraft. FY2012 funding:

- (1) supports the design, development, and testing of One NALCOMIS (Naval Aviation Logistics Command/Management Information System), which will consolidate organizational and depot level aviation maintenance into a single system. This will provide streamlined maintenance management for Navy and Marine Corps aviation.
- (2) supports design, development, and migration of NTCSS into the MLDN (Maritime Logistics Data Network) concept of operations featuring multi-UIC (Unit Identification Code), which will provide a consolidated logistics management system by combining logistics data from multiple fleet operational platforms into a single database management system ashore with bi-directional replication and transactional capabilities.
- (3) provides for the design, development and testing of the Single Supply Baseline (SSB), which will integrate upgrades to Ships Store (Retail Operations Management (ROM)) and Food Services (Food Services Management (FSM)) products.
- (4) provides for the transition of the current, client-server architecture to a service-oriented architecture (SOA) and web-based services. This will align with the initiative to bring Navy systems into a common computing environment afloat, interface with Navy Enterprise Resource Planning (ERP) ashore, and provide a more flexible system platform with greater responsiveness to security, information assurance, functional, and system requirements and with greater speed to capability.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|---------|---------|--------------|-------------|---------------|
| Title: NTCSS (Naval Tactical Command Spt Sys) | 5.971 | 3.661 | 18.524 | - | 18.524 |
| Articles: | 0 | 0 | 0 | | 0 |
| Description: Maintenance and Supply Management Capability | | | | | |
| FY 2010 Accomplishments: Continued design and development efforts for NTCSS One NALCOMIS. Began design and development efforts for NTCSS multi-UIC (Unit Identification Code), enterprise database, and replication capabilities. Began product improvement efforts for Service-Oriented Architecture (SOA) and web-based services to leverage multi-UIC and the enterprise system. Integrated NTCSS with CCE/CANES (Common Computing Environment/Consolidated | | | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 3032: <i>NTCSS (Naval Tactical Command Spt Sys)</i> |
|---|---|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|---------|---------|--------------|-------------|---------------|
| Afloat Networks and Enterprise Services) afloat and NMCI (Navy/Marine Corps Intranet) ashore with required interfaces to Navy systems including ERP (Enterprise Resource Planning). FY 2011 Plans: Continue design, development, and testing efforts for NTCSS One NALCOMIS, multi-unit identification code (UIC), and enterprise database system. Continue design, development, and testing efforts for NTCSS product improvements of service-oriented architecture (SOA) and web-based services. FY 2012 Base Plans: Continue design, development, and testing efforts for NTCSS One NALCOMIS, multi-UIC, and enterprise database system. Continue design, development, and testing efforts for NTCSS product improvements of SOA and web-based service. Begin design, development and testing efforts for Single Supply Baseline (SSB) with upgrades to Ships Store (Retail Operations Management (ROM)) and Food Services (Food Services Management (FSM)) products. | | | | | |
| Accomplishments/Planned Programs Subtotals | 5.971 | 3.661 | 18.524 | - | 18.524 |

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | <u>Cost To Complete</u> | <u>Total Cost</u> |
|--|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|-------------------------|-------------------|
| • OPN/2611: <i>Naval Tactical Command Support System</i> | 35.742 | 33.358 | 33.017 | 0.000 | 33.017 | 35.683 | 30.860 | 34.824 | 21.227 | 0.000 | 645.316 |

D. Acquisition Strategy
 The NTCSS Acquisition Strategy is defined in its Single Acquisition Management Plan (SAMP) dated February 2004. This SAMP provides the acquisition strategy and implementation plans for all NTCSS applications and is based on the following six tenants: Migration to Optimized Software Architecture, Migration to PC Workstations and UNIX/NT Servers, Migration to the Common Operating Environment (COE), Business Process Improvements, Focused Logistics, and Streamlined Acquisition Process. The SAMP provides a single point of focus and presents these efforts in an integrated and coordinated fashion.

E. Performance Metrics
 One NALCOMIS reduces NTCSS Aviation software baseline configuration management support by 50%. Additionally, the NTCSS Aviation system hardware requirement realizes a 50% reduction at Fleet Readiness Centers (ashore) and Aircraft Intermediate Maintenance Departments (afloat). Over the FYDP, SOA (Open Architecture) for NTCSS will lower system maintenance costs by \$15.7M when compared to maintaining the current, client-server architecture.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 3032: <i>NTCSS (Naval Tactical Command Spt Sys)</i> |
|---|---|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Primary Hardware Development | WR | SSC:North Charleston, SC | 0.668 | - | | - | | - | | - | 0.000 | 0.668 | 0.668 |
| Systems Engineering | C/CPFF | SeaPort:San Diego, CA | 1.200 | 0.251 | Nov 2010 | 0.500 | Nov 2011 | - | | 0.500 | 0.000 | 1.951 | |
| Licenses | Various | SSC:San Diego, CA | 0.700 | - | | - | | - | | - | 0.000 | 0.700 | 0.700 |
| Software Development | WR | SSC:Norfolk, VA | 16.363 | 2.352 | Nov 2010 | 16.960 | Nov 2011 | - | | 16.960 | 0.000 | 35.675 | |
| Integrated Logistics Support | C/CPFF | SeaPort:San Diego, CA | 0.100 | 0.100 | Nov 2010 | 0.300 | Nov 2011 | - | | 0.300 | 0.000 | 0.500 | |
| Configuration Management | WR | SSC:San Diego, CA | 0.460 | - | | - | | - | | - | 0.000 | 0.460 | |
| Technical Data | WR | SSC:San Diego, CA | 0.200 | - | | - | | - | | - | 0.000 | 0.200 | |
| Subtotal | | | 19.691 | 2.703 | | 17.760 | | - | | 17.760 | 0.000 | 40.154 | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Developmental Test & Evaluation | WR | NAWC:Patuxent River, MD | - | 0.400 | Nov 2010 | 0.250 | Nov 2011 | - | | 0.250 | 0.000 | 0.650 | |
| Operational Test & Evaluation | C/CPFF | COTF:Norfolk, VA | 0.585 | 0.200 | Nov 2010 | - | | - | | - | 0.000 | 0.785 | |
| Subtotal | | | 0.585 | 0.600 | | 0.250 | | - | | 0.250 | 0.000 | 1.435 | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Contractor Engineering Support | C/CPFF | SeaPort:San Diego, CA | 0.896 | - | | - | | - | | - | 0.000 | 0.896 | 0.896 |
| Government Engineering Support | WR | SSC:San Diego, CA | 0.279 | - | | - | | - | | - | 0.000 | 0.279 | 0.279 |
| Program Management Support | C/CPFF | SeaPort:San Diego, CA | 0.074 | 0.358 | Nov 2010 | 0.514 | Nov 2011 | - | | 0.514 | 0.000 | 0.946 | |
| Subtotal | | | 1.249 | 0.358 | | 0.514 | | - | | 0.514 | 0.000 | 2.121 | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604231N: *Tactical Command System*

PROJECT

3032: *NTCSS (Naval Tactical Command Spt Sys)*

| Fiscal Year | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | 2014 | | | | 2015 | | | | 2016 | | | |
|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NTCSS | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Engineering Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NTCSS Open Architecture (OA) Build 1 | | | △ | △ | | | | | | | | △ | △ | | | | | | | | | | | | | | | |
| NTCSS Open Architecture (OA) Build 2 | | | | | | | △ | △ | | | | | | △ | △ | | | | | | | | | | | | | |
| NTCSS Open Architecture (OA) Build 3 | | | | | | | | | △ | △ | | | | | | △ | △ | | | | | | | | | | | |
| NTCSS Open Architecture (OA) Build 4 | | | | | | | | | | | | △ | △ | | | | | | | | | △ | △ | | | | | |
| NTCSS Open Architecture (OA) Build 5 | | | | | | | | | | | | | | | | △ | △ | | | | | △ | △ | | | | | |
| NTCSS Open Architecture (OA) Build 6 | | | | | | | | | | | | | | | | | | | | | | | | | | △ | △ | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | △ | △ |
| Test & Evaluation Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NTCSS | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Software Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NTCSS | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Exhibit R-4, Schedule Profile

CDR: Critical Design Review PRR: Production Readiness Review SRR: System Requirements Review TRR: Test Readiness Review

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 3032: <i>NTCSS (Naval Tactical Command Spt Sys)</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 3032 | | | | |
| NTCSS Open Architecture Build 1- System Concept Review (SCR) | 3 | 2010 | 3 | 2010 |
| NTCSS Open Architecture Build 1- Critical Design Review (CDR) | 4 | 2010 | 4 | 2010 |
| NTCSS Open Architecture Build 1- Test Readiness Review (TRR) | 3 | 2012 | 3 | 2012 |
| NTCSS Open Architecture Build 1- Production Readiness Review (PRR) | 4 | 2012 | 4 | 2012 |
| NTCSS Open Architecture Build 1- Operational Test (OT) | 3 | 2013 | 3 | 2013 |
| NTCSS Open Architecture Build 1- Delivery | 1 | 2014 | 1 | 2014 |
| NTCSS Open Architecture Build 2- System Requirements Review (SRR) | 3 | 2011 | 3 | 2011 |
| NTCSS Open Architecture Build 2- Critical Design Review (CDR) | 4 | 2011 | 4 | 2011 |
| NTCSS Open Architecture Build 2- Test Readiness Review (TRR) | 2 | 2013 | 2 | 2013 |
| NTCSS Open Architecture Build 2- Production Readiness Review (PRR) | 3 | 2013 | 3 | 2013 |
| NTCSS Open Architecture Build 2- Operational Test (OT) | 1 | 2014 | 1 | 2014 |
| NTCSS Open Architecture Build 2- Delivery | 3 | 2014 | 3 | 2014 |
| NTCSS Open Architecture Build 3- System Requirements Review (SRR) | 2 | 2012 | 2 | 2012 |
| NTCSS Open Architecture Build 3- Critical Design Review (CDR) | 3 | 2012 | 3 | 2012 |
| NTCSS Open Architecture Build 3- Test Readiness Review (TRR) | 4 | 2013 | 4 | 2013 |
| NTCSS Open Architecture Build 3- Production Readiness Review (PRR) | 1 | 2014 | 1 | 2014 |
| NTCSS Open Architecture Build 3- Operational Test (OT) | 4 | 2014 | 4 | 2014 |
| NTCSS Open Architecture Build 3- Delivery | 2 | 2015 | 2 | 2015 |
| NTCSS Open Architecture Build 4- System Requirements Review (SRR) | 1 | 2013 | 1 | 2013 |
| NTCSS Open Architecture Build 4- Critical Design Review (CDR) | 2 | 2013 | 2 | 2013 |
| NTCSS Open Architecture Build 4- Test Readiness Review (TRR) | 1 | 2015 | 1 | 2015 |

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 3032: <i>NTCSS (Naval Tactical Command Spt Sys)</i> |

| Events by Sub Project | Start | | End | |
|--|----------------|-------------|----------------|-------------|
| | Quarter | Year | Quarter | Year |
| NTCSS Open Architecture Build 4- Production Readiness Review (PRR) | 2 | 2015 | 2 | 2015 |
| NTCSS Open Architecture Build 4- Operational Test (OT) | 4 | 2015 | 4 | 2015 |
| NTCSS Open Architecture Build 4- Delivery | 2 | 2016 | 2 | 2016 |
| NTCSS Open Architecture Build 5- System Requirements Review (SRR) | 1 | 2014 | 1 | 2014 |
| NTCSS Open Architecture Build 5- Critical Design Review (CDR) | 2 | 2014 | 2 | 2014 |
| NTCSS Open Architecture Build 5- Test Readiness Review (TRR) | 1 | 2015 | 1 | 2015 |
| NTCSS Open Architecture Build 5- Production Readiness Review (PRR) | 2 | 2015 | 2 | 2015 |
| NTCSS Open Architecture Build 5- Operational Test (OT) | 4 | 2015 | 4 | 2015 |
| NTCSS Open Architecture Build 5- Delivery | 2 | 2016 | 2 | 2016 |
| NTCSS Open Architecture Build 6- System Requirements Review (SRR) | 3 | 2015 | 3 | 2015 |
| NTCSS Open Architecture Build 6- Critical Design Review (CDR) | 4 | 2015 | 4 | 2015 |
| NTCSS Open Architecture Build 6- Test Readiness Review (TRR) | 3 | 2016 | 3 | 2016 |
| NTCSS Open Architecture Build 6- Production Readiness Review (PRR) | 4 | 2016 | 4 | 2016 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 3320: <i>TRIDENT Warrior</i> |
|---|---|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 3320: <i>TRIDENT Warrior</i> | - | - | 3.712 | - | 3.712 | 3.582 | 3.037 | 3.075 | 2.285 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

Note
Trident Warrior (TW) was transferred from Project 9123 into Project 3320 beginning in FY12.

A. Mission Description and Budget Item Justification

Trident Warrior (TW) enables early delivery of Net-Centric Operation/Warfare (NCO/W) capabilities to the warfighter via Fleet-directed Trident Warrior operational events with a strong emphasis on delivering Maritime Domain Awareness (MDA) with Maritime Operations Center (MOC) capability. Integrates stand-alone systems and efforts to achieve substantially enhanced capability, demonstrates/tests these capabilities in both laboratory and operational environments, and evaluates their effectiveness. Develops supporting concepts and Concept of Operations to improve warfighting effectiveness. Coordinates FORCENet efforts with other Service/Joint/DoD/National efforts to ensure Joint/Interagency/Allied/Coalition applicability and interoperability.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|--------------|-------------|---------------|
| Title: Trident Warrior (TW) | - | - | 3.712 | - | 3.712 |
| Articles: | | | 0 | | 0 |
| FY 2012 Base Plans: Focuses on operational experimentation of Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) technologies during the Navy's premier annual Sea Trial event. The primary goal is to improve information dominance capabilities, maritime warfighting policy and procedures, and interoperability between U.S. and Coalition partners. The majority of TW experimentation occurs during operational at-sea venues where new and emerging capabilities are integrated with current fleet units and either demonstrated, or evaluated on their potential military utility. The Sea-based venue works on an 18-month cycle and focuses on the readiness of higher Technology Readiness Level (TRL) technologies in a Maritime-based environment. The at-sea portion of TW will be executed in two phases: phase one in the Commander Fifth Fleet (C5F) Area of Responsibility using forward deployed units, and phase two in the Virginia Capes Operating Area (VACAPES) utilizing Commander Second Fleet (C2F) units. Begin developing FY13 and FY14 TW Sea Trial plans. | | | | | |
| Accomplishments/Planned Programs Subtotals | - | - | 3.712 | - | 3.712 |

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 3320: <i>TRIDENT Warrior</i> |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

Trident Warrior (TW) is an annual operational experiment and is not associated with acquisition efforts.

E. Performance Metrics

Confirmation of Fleet and Joint Interoperability with technology candidates, Information Assurance (IA) Certification and Accreditation (C&A), and alignment with current Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) Technology Roadmaps as well as related Program Executive Office objectives and projected architectures. Metrics for individual technologies are independently determined and validated by Naval Postgraduate School. Metrics are chosen to ensure that the experiment results in the accurate assessment of the technology to either address a capability gap or support Program of Record programmatic decisions.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 3320: <i>TRIDENT Warrior</i> |
|---|---|--|

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | Cost To Complete | Total Cost | Target Value of Contract |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------------|---------------------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract | |
| Trident Warrior (TW) | WR | Fleet Forces Command:San Diego, CA | - | - | | 0.101 | Dec 2011 | - | | 0.101 | Continuing | Continuing | Continuing | |
| Trident Warrior (TW) | WR | Naval Postgraduate School:Monterey, CA | - | - | | 1.032 | Nov 2011 | - | | 1.032 | Continuing | Continuing | Continuing | |
| Trident Warrior (TW) | WR | SSC Atlantic:Charleston, SC | - | - | | 0.469 | Jan 2012 | - | | 0.469 | Continuing | Continuing | Continuing | |
| Trident Warrior (TW) | WR | SSC Pacific:San Diego, CA | - | - | | 0.550 | Nov 2011 | - | | 0.550 | Continuing | Continuing | Continuing | |
| Trident Warrior (TW) | C/CPFF | AUSGAR Technolgies Inc.:San Diego, CA | - | - | | 1.560 | Dec 2011 | - | | 1.560 | Continuing | Continuing | Continuing | |
| Subtotal | | | - | - | | 3.712 | | - | | 3.712 | | | | |
| Project Cost Totals | | | - | - | | 3.712 | | - | | 3.712 | | | | |

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 3320: <i>TRIDENT Warrior</i> |
|---|---|--|

| Fiscal Year | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | 2014 | | | | 2015 | | | | 2016 | | | |
|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|
| QTR | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Trident Warrior (TW) <i>Moved from Project 9123 to new Project 3320 from FY12 forward.</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TW[CFY-1] Military Utility Assessment | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TW [CFY] Execution | | | | | | | | | | △ | △ | △ | △ | | | | | | | | | | | | | | | |
| TW Lab Based E2C Experiments | | | | | | | | | | △ | △ | △ | △ | | | | | | | | | | | | | | | |
| TW[CFY+1] Concept Development Conferences | | | | | | | | | | | △ | △ | △ | | | | | | | | | | | | | | | |
| TW[CFY+1] Data Calls & CAA | | | | | | | | | | | △ | △ | △ | | | | | | | | | | | | | | | |
| TW[CFY+1] Initial Planning Conferences | | | | | | | | | | | | △ | △ | △ | | | | | | | | | | | | | | |
| TW[CFY] Mid-Term Planning Conferences | | | | | | | | | | △ | △ | △ | △ | | | | | | | | | | | | | | | |
| TW[CFY] Final Planning Conferences | | | | | | | | | | | △ | △ | △ | | | | | | | | | | | | | | | |
| TW [CFY] Military Utility Assessment | | | | | | | | | | | | △ | △ | △ | △ | | | | | | | | | | | | | |

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 3320: <i>TRIDENT Warrior</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|------------------------------------|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 3320 | | | | |
| Trident Warrior (TW) Execution | 2 | 2012 | 3 | 2016 |
| TW Lab Based E2C Experiments | 1 | 2012 | 3 | 2016 |
| TW Concept Development Conferences | 2 | 2012 | 2 | 2016 |
| TW Data Calls & CAA | 2 | 2012 | 2 | 2016 |
| TW Initial Planning Conferences | 4 | 2012 | 4 | 2016 |
| TW Mid-Term Planning Conferences | 1 | 2012 | 1 | 2016 |
| TW Final Planning Conferences | 2 | 2012 | 2 | 2016 |
| TW Military Utility Assessment | 4 | 2012 | 4 | 2016 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 3323: <i>Maritime Tactical Command & Control (MTC2)</i> |
|---|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 3323: <i>Maritime Tactical Command & Control (MTC2)</i> | - | - | 0.003 | - | 0.003 | 9.716 | 10.800 | 12.401 | 21.832 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

Note

Beginning in fiscal year 2013, the development of maritime tactical command and control capabilities will be realigned from Global Command and Control System Maritime (GCCS-M) Maritime Applications (Project Unit 0709) to the Maritime Tactical Command and Control (MTC2) program (Project Unit 3323).

A. Mission Description and Budget Item Justification

Maritime Tactical Command and Control (MTC2) is a software program which will provide tactical Command and Control (C2) capabilities in addition to supporting Maritime unique Operational Level of War capabilities not supported by the Joint C2 Program, to all echelons of command within the Navy. The goal is to provide a means for Naval commanders at the Operational Level of War (OLW), Fleet Numbered Commanders, Naval Joint Task Force (JTF), Joint Force Maritime Component Commander (JFMCC), and subordinate commanders, Cruiser-Strike Group (CSG) Commanders, Naval Expeditionary Force Commanders, Amphibious Task Force (ATF)/Landing Force Commanders, Destroyer Squadron (DESRON) Commanders, and individual platform commanders) to deploy personnel and equipment through a set of requisite tools that enable the Navy command structure to plan, execute, monitor, and assess its mission requirements.

War fighter capabilities defined in Naval Warfare Publication 3-32, 5-01 and Joint Publications 5.0 require a path for maritime-unique tactical (C2) capabilities at all levels of war. This dedicated program will enable the evolutionary acquisition of maritime-unique (C2) capabilities towards the Services Oriented Architecture standards being adopted. It will provide continual increased functional capability, war fighter effectiveness and Commander control for management of tactical forces in all levels of war. MTC2 will fully align and support DoD Joint C2 data and service exposure and consumption goals, architectures and Net-Centric Enterprise Services efforts. MTC2 will be software only, and require the Navy Common Computing Enterprise (CCE) provided by Integrated Shipboard Network System (ISNS), Consolidated Afloat Network Enterprise Service (CANES), Navy/Marines Corps Intranet (NMCI), Overseas Navy Enterprise Network (ONE-NET), Next Generation Enterprise Network (NGEN), and Joint Worldwide Intelligence Communications Systems (JWICS) to serve as the underlying information technology infrastructure of network and hardware for MTC2 software.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|--------------|-------------|---------------|
| Title: Navy Working Capital Fund Rate Adjustment | - | - | 0.003 | - | 0.003 |
| Articles: | | | 0 | | 0 |
| FY 2012 Base Plans: Navy Working Capital Fund Rate Adjustment - this issue adjusts WCF rates. | | | | | |
| Accomplishments/Planned Programs Subtotals | - | - | 0.003 | - | 0.003 |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 3323: <i>Maritime Tactical Command & Control (MTC2)</i> |
|---|---|---|

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> <u>Base</u> | <u>FY 2012</u> <u>OCO</u> | <u>FY 2012</u> <u>Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
|-----------------------------------|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| • RDTEN/0604231N/0709: GCCS- M | 19.926 | 28.216 | 17.580 | 0.000 | 17.580 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 22,061.722 |

D. Acquisition Strategy

MTC2 is planning to execute an Evolutionary Acquisition Strategy. Software development will be comprised of multiple releases of increasing levels of net-centric services capability. MTC2 is planned as a software only development and implementation, dependent on Navy Common Computing Environment (CCE) hardware infrastructure provided by the Consolidated Afloat Network Enterprise Service (CANES), Integrated Shipboard Network System (ISNS), Navy/Marine Corps Intranet (NMCI), Next Generation Enterprise Network (NGEN), and Overseas Navy Enterprise Network (ONE-NET) programs. MTC2's primary contracting method for software development utilizes Indefinite Delivery, Indefinite Quantity (IDIQ) task orders on the Command and Control Multiple Award Contract (C2 MAC) contact and SEAPORT-E task orders. For program management, logistics and software maintenance, support future competitive contracts are planned.

E. Performance Metrics

Successfully achieve Milestone B. Successfully complete Development Test/Operational Assessment/Operational Test. Successfully conduct Full Deployment Decision.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 3323: <i>Maritime Tactical Command & Control (MTC2)</i> |
|---|---|---|

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|-----------------|------------|----------------|------------|------------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Navy Working Capital Fund Rate Adjustment | WR | WCF:TBD | - | - | | 0.003 | Sep 2012 | - | | 0.003 | 0.000 | 0.003 | |
| Subtotal | | | - | - | | 0.003 | | - | | 0.003 | 0.000 | 0.003 | |
| | | | Total Prior Years Cost | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
| Project Cost Totals | | | - | - | | 0.003 | | - | | 0.003 | 0.000 | 0.003 | |

Remarks

UNCLASSIFIED

| | | | | | | | | | | | |
|---|----------------|----------------|---------------------|---|----------------------|----------------|----------------|--|----------------|-------------------------|-------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | | | | | | | DATE: February 2011 | | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | | | | PROJECT 3324: <i>Navy Air Operations Command and Control (NAOC2)</i> | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| 3324: <i>Navy Air Operations Command and Control (NAOC2)</i> | - | - | 2.283 | - | 2.283 | 4.987 | 4.297 | 2.184 | 1.136 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

Note

Beginning in fiscal year 2012, the Navy Command and Control Air Planning Capability effort will be realigned from Theater Battle Management Core System (TBMCS), Project Unit 0709, to the Navy Air Operations Command and Control (NAOC2) program under Project Unit 3324.

A. Mission Description and Budget Item Justification

Navy Air Operations Command and Control (NAOC2) integrates and tests Air Force Program of Record systems that provide an integrated and scalable planning system for standardized, secure, and automated decision support for Air Force, Joint, and Allied commanders worldwide. These programs provide automated air operations planning, execution management and intelligence capabilities at the Force level to include Fleet Commanders, Numbered Fleet Commanders, Commander Carrier Strike Group, Commander Expeditionary Strike Group, Commander Landing Force, and Joint Task Force Commanders. NAOC2 includes Theater Battle Management Core System (TBMCS), Command and Control Air and Space Operations Suite (C2AOS), plus Command, Control and Information Services (C2IS). C2AOS and C2IS are being developed as Service Oriented Architecture (SOA) services to allow for scalability and integration with Common Computing Environments (CCE). Continuation of these efforts will significantly enhance the Joint Force Air Component Commander and Combined Air Operations Center personnel to plan daily air operations including strike, airlift, offensive and defensive air, tanker missions in support of combat operations, addressing the requirement of war fighter of distributed planning and execution processes and significantly improving Joint interoperability. TBMCS continues a hardware transition to CCEs such as Consolidated Afloat Networks and Enterprise Services (CANES). Currently, TBMCS is the key system that is used to conduct real world air planning in the Joint and Navy environment. C2AOS and C2IS will replace TBMCS in a SOA environment while bringing more flexibility to the war fighter. In FY2012, the program will continue efforts previously funded by Global Command and Control System Maritime (GCCS-M) to migrate Air Force delivered TBMCS software to the Navy unique CANES environment. Additionally in FY2012, the program will conduct integration and testing in support of Air Force development of C2AOS and C2IS.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|----------------|----------------|---------------------|--------------------|----------------------|
| Title: TBMCS CANES Migration | - | - | 1.424 | - | 1.424 |
| Articles: | | | 0 | | 0 |
| FY 2012 Base Plans: Continue migration of Air Force designed, developed, and delivered Theater Battle Management Core System (TBMCS) software to the Navy unique Consolidated Afloat Networks and Enterprise Services (CANES) Common | | | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 3324: <i>Navy Air Operations Command and Control (NAOC2)</i> |
|---|---|--|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|-----------------|----------------|------------------|
| Computing Environment. Conduct integrated TBMCS/CANES Developmental Tests and prepare for Operational Test. | | | | | |
| Title: C2AOS / C2IS Integration and Testing | - | - | 0.859 | - | 0.859 |
| Articles: | | | 0 | | 0 |
| FY 2012 Base Plans: Conduct integration and testing in support of Air Force development of Command and Control Air and Space Operations Suite and Command, Control and Information Services to ensure full functionality on Navy unique systems to support increased Joint interoperability and enhanced capability including theater level planning plus distributed planning and execution processes. | | | | | |
| Accomplishments/Planned Programs Subtotals | - | - | 2.283 | - | 2.283 |

| C. Other Program Funding Summary (\$ in Millions) | | | | | | | | | | | |
|--|----------------|----------------|-------------------------|------------------------|--------------------------|----------------|----------------|----------------|----------------|-----------------------------|-------------------|
| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012 Base</u> | <u>FY 2012 OCO</u> | <u>FY 2012 Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To Complete</u> | <u>Total Cost</u> |
| • 0204660N/2618 : <i>Navy Command and Control System</i> | 0.000 | 0.334 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.334 |
| • 0604231N/0604231N: <i>GCCS-M Maritime Applications (RDTE - PU 0709) Note 1</i> | 0.000 | 1.729 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 1.729 |

D. Acquisition Strategy

Theater Battle Management Core Systems (TBMCS) is designed, developed, and delivered by the Air Force and will be integrated for a Navy Common Computing Environment (CCE) such as Consolidated Afloat Networks and Enterprise Services (CANES). As a Joint Interest Program, this approach satisfies the current validated requirements, supports the accelerated retirement of legacy hardware, and reduces overall risk to the program.

Command and Control Air and Space Operations Suite (C2AOS) and Command, Control and Information Services (C2IS) are designed, developed, and delivered by the Air Force and will be integrated for a Navy CCE and Service Oriented Architecture environment such as CANES. This approach satisfies the current validated requirements and reduces overall risk to the program.

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 3324: <i>Navy Air Operations Command and Control (NAOC2)</i> |

E. Performance Metrics

TBMCS, C2AOS, and C2IS are designed, developed, and delivered by the Air Force. This leverage greatly reduces the integration and testing costs associated with each software release. The solutions will reside on CCE/CANES architecture. These software-only solutions eliminate hardware procurement, installation, and sustainment costs.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 3324: <i>Navy Air Operations Command and Control (NAOC2)</i> |
|---|---|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Systems Engineering | WR | SSC Pacific:San Diego, CA | - | - | | 1.123 | Oct 2011 | - | | 1.123 | 0.000 | 1.123 | |
| Licenses | WR | SSC Pacific:San Diego, CA | - | - | | 0.059 | Oct 2011 | - | | 0.059 | 0.000 | 0.059 | |
| GFE | WR | SSC Pacific:San Diego, CA | - | - | | 0.657 | Oct 2011 | - | | 0.657 | 0.000 | 0.657 | |
| Subtotal | | | - | - | | 1.839 | | - | | 1.839 | 0.000 | 1.839 | |

Remarks
GFE support integration efforts, not for fielding.

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Development Support | C/TBD | Unknown:Unknown | - | - | | 0.059 | Oct 2011 | - | | 0.059 | 0.000 | 0.059 | |
| Subtotal | | | - | - | | 0.059 | | - | | 0.059 | 0.000 | 0.059 | |

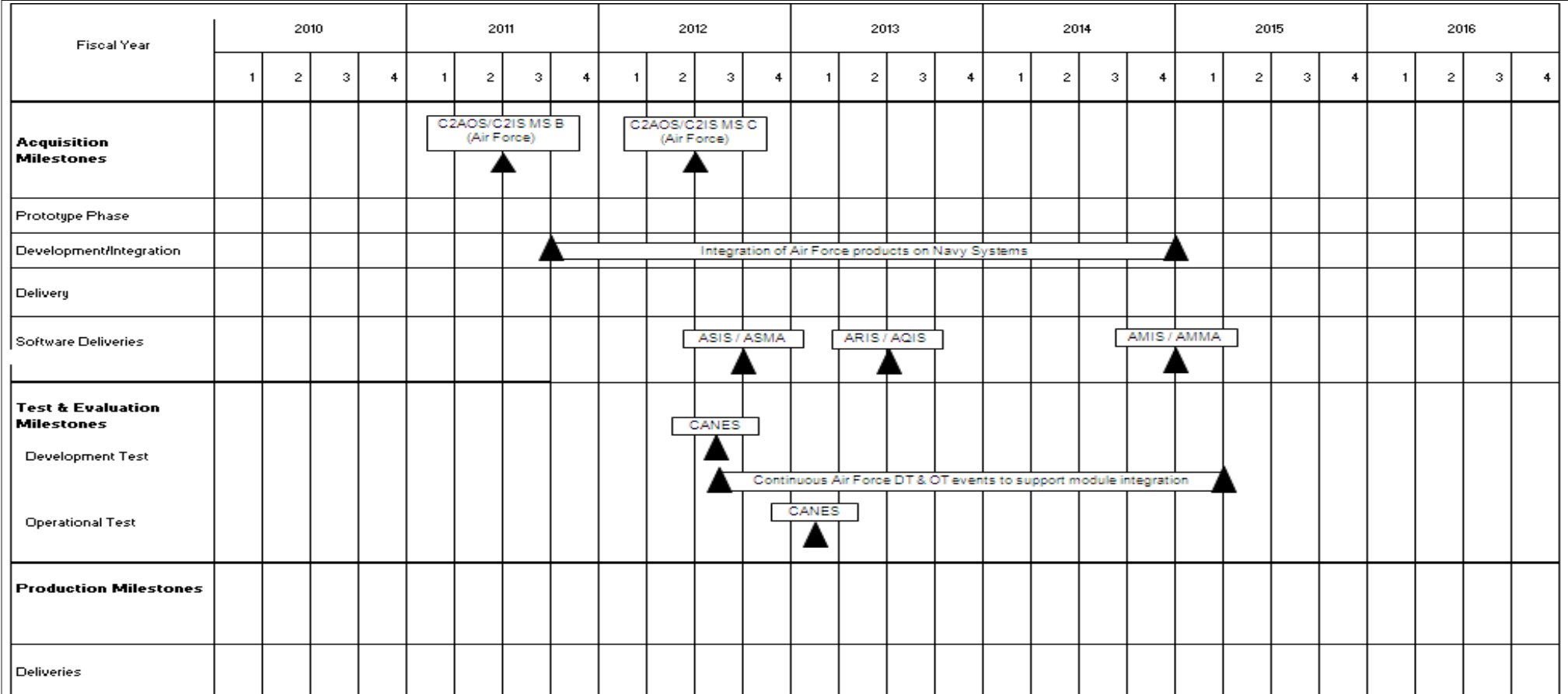
| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Developmental Test & Evaluation | WR | COMOPTEVFOR:Norfolk, VA | - | - | | 0.138 | Oct 2011 | - | | 0.138 | 0.000 | 0.138 | |
| Subtotal | | | - | - | | 0.138 | | - | | 0.138 | 0.000 | 0.138 | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 3324: <i>Navy Air Operations Command and Control (NAOC2)</i> |
|---|---|--|



Note: Navy schedule is for integration and fielding only. Command and Control Air and Space Operations Suite (C2AOS) modules include Air Resource Information Services (ARIS), Air Request Information Services (AQIS), Airspace Information Services (ASIS), and Air Mission Information Services (AMIS). Command, Control and Information Services (C2IS) modules include Airspace Management Application (ASMA) and Air Mission Management Application (AMMA). Both C2AOS and C2IS are Air Force ACAT III PORs. Theater Battle Management Core Systems (TBMCS) migration will support Consolidated Afloat Networks and Enterprise Services (CANES) testing events. Air Force milestones were taken from Air Force PB11 R-1 Line Item #147, PE 0207410F, Project 675218.

Exhibit R-4, Schedule Profile Exhibit R-4, Schedule Profile

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 3324: <i>Navy Air Operations Command and Control (NAOC2)</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 3324 | | | | |
| Air Force C2AOS/C2IS Milestone B | 2 | 2011 | 2 | 2011 |
| Air Force C2AOS/C2IS Milestone C | 2 | 2012 | 2 | 2012 |
| Air Force Product Integration on Navy Systems | 4 | 2011 | 4 | 2014 |
| Software Deliveries (C2AOS/C2IS) | 3 | 2012 | 4 | 2014 |
| Developmental Test (TBMCS/CANES) | 3 | 2012 | 3 | 2012 |
| Air Force Continuous Developmental/Operational Test (C2AOS/C2IS) | 3 | 2012 | 1 | 2015 |
| Operational Test (TBMCS/CANES) | 1 | 2013 | 1 | 2013 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 9123: <i>FORCEnet</i> |
|---|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|----------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 9123: <i>FORCEnet</i> | 6.049 | 5.667 | 5.386 | - | 5.386 | 4.686 | 5.015 | 4.992 | 5.169 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

Note

Trident Warrior (TW) was transferred from Project 9123 into Project 3320 beginning in FY12.

A. Mission Description and Budget Item Justification

FORCEnet is the Navy and Marine Corps initiative to achieve Department of Navy (DoN)/Department of Defense (DoD) Transformation, Joint/Allied/Coalition Interoperability, implementing Maritime Domain Awareness (MDA), and Net-Centric Operations/Warfare (NCO/W). FORCEnet is the driver of Sea Power 21, Naval Power 21, the Naval Operating Concept for Joint Operations, and the DoN's Naval Transformation Roadmap.

The FORCEnet project line funds the following efforts:

- (1) DoN Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) Transformation/Strategic Planning within DoN/ Joint/DoD Framework: Assesses existing and emerging capabilities, develops and evaluates Navy-wide policies, plans, requirements, and compliance; develops integration and investment strategies; and accelerates innovation, testing, assessment and fielding of material and non-material solutions for enhanced operational capability, Joint/Allied/Coalition interoperability and application/enforcement of enterprise requirements/architectures/standards toward greater NCO/W capability. Supports Navy implementation of MDA capability, Maritime Operations Centers (MOC), and enterprise network efforts.
- (2) Accelerating Joint Warfighting Capability (Trident Warrior) (TW): Enables early delivery of NCO/W capabilities to the warfighter via Fleet-directed TW operational events with a strong emphasis on delivering MDA with MOC capability. Integrates stand-alone systems and efforts to achieve substantially enhanced capability, demonstrates/tests these capabilities in both laboratory and operational environments, and evaluates their effectiveness. Develops supporting concepts and Concept of Operations (CONOPS) to improve warfighting effectiveness. Coordinates FORCEnet efforts with other Service/Joint/DoD/National efforts to ensure Joint/Interagency/ Allied/Coalition applicability and interoperability.
- (3) Systems Requirements Analysis/Systems Engineering (formerly Osprey Hawksbill): Supports requirements analysis and systems engineering of systems under development by DoN/DoD. Funding supports the technical and systems engineering expertise required for C4ISR systems technical requirements generation, requirements tracking, architecture development, and detailed analyses on various warfare systems under development to determine if the required Command, Control, Communications, and Computers (C4) infrastructure, resources, and other capabilities are aligned and synchronized. The funding also supports the systems engineering for the synthesis of current network-centric, C4ISR Programs of Record with existing/emerging capabilities.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 9123: <i>FORCEnet</i> |
|---|---|---|

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|-----------------|----------------|------------------|
| Title: FORCEnet | 6.049 | 5.667 | 5.386 | - | 5.386 |
| Articles: | 0 | 0 | 0 | | 0 |
| FY 2010 Accomplishments: | | | | | |
| <p>1) Department of the Navy (DoN) Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) Transformation/Strategic Planning within DoN/Joint/Department of Defense (DoD) Framework: Within the DoD, Joint Staff (JS), and Combatant Commander management of Joint Capability Portfolios, assessed existing and emerging capabilities in selected operating environments, developed integration plans, executed systems engineering reviews, investment strategies, accelerated innovation, technology insertion, and incorporation of material and non-material solutions for enhanced Joint operational capabilities in Net-Centric Operations/Warfare (NCO/W). Supported Navy implementation of Maritime Domain Awareness (MDA), Standing Joint Force Headquarters, Maritime Operations Center (MOC), and coalition/allied operations.</p> <p>2) Accelerating Joint Warfighting Capability (Trident Warrior) (TW): Finalized analysis of TW09 experiment resulting in delivery of Military Utility Assessment (MUA) to Naval Network Warfare Command (NETWARCOM), Commander Fleet Forces Command (CFFC) and the Sea Trial Expeditionary Strike Group (ESG). Explored TW10 in Commander Third Fleet (C3F)/Commander Seventh Fleet (C7F) Area of Responsibility using Carrier Strike Group/Expeditionary Strike Group (CSG/ESG) units with continued coalition presence. For TW10, directed, coordinated, assisted and supervised participant compliance with specific goal identification, risk identification, and experiment plan including data requirements and collection on schedule and in accordance with standardized procedures derived from experimentation best practices. Assisted participants to achieve required installation and security certifications, accreditations and approvals. Conducted Risk Reduction Limited Objective Experiment (RR LOE) in a lab environment to ensure systems had no negative impact on operational unit readiness and that systems provided valid data to support analysis and subsequent decisions. Assisted in installation of experimental systems including a groom of ship operational systems to ensure they operated as designed to support acquisition of valid data, and provided Subject Matter Experts (SME) to maintain core ship services during the experiment period. Provided independent experimentation experts who coordinated establishment and compliance with experiment plans, led analysis efforts, and provided unbiased assessment to decision makers. Provided results to government sponsors to support the program's Planning, Programming, Budgeting, and Execution System (PPBES) and engineering decisions. Anticipated some areas of investigation to be operational level implementation of MDA, MOC, Coalition, Global Information Grid (GIG) and Network Centric Enterprise Services (NCES) technologies and associated Tactics, Techniques, and Procedures</p> | | | | | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 9123: <i>FORCEnet</i> |
|---|---|---|

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|---------|---------|--------------|-------------|---------------|
| <p>(TTP) and Concept of Operations (CONOPS). Planned and executed TW10 operational events to accelerate transition of FORCEnet capability to the Fleet. Provided leave-behind capability for one deployment cycle of successful technologies for extended operational assessment. Began planning for TW11: Solicited participation of government sponsored and industry sponsored technologies responsive to identified naval capability gaps. Selected technologies for participation in numbers supportable within resources; approximately 100 initiatives. Developed FY 11-12 FORCEnet Sea Trial Plan.</p> <p>(3) Systems Requirements Analysis/Systems Engineering (formerly Osprey Hawksbill): Conducted requirements analysis and systems engineering of systems under development by Department of Navy/ Department of Defense. Provided technical and systems engineering expertise required for C4ISR systems technical requirements generation and tracking, architecture development, systems analysis to evaluate alignment and synchronization of infrastructure, resources and other existing/developing systems. Funding also supported the systems engineering for the synthesis of current net-centric Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) systems with existing and emerging C4ISR systems.</p> <p><i>FY 2011 Plans:</i></p> <p>1) DoN C4ISR Transformation/Strategic Planning within Department of the Navy (DoN)/Joint/Department of Defense (DoD) Framework: Within the DoD, Joint Staff (JS), and Combatant Commander management of Joint Capability Portfolios, assesses existing and emerging capabilities in selected operating environments, develops integration plans, executes system engineering reviews and investment strategies, accelerates innovation, technology insertion, and incorporation of material and non-material solutions for enhanced Joint operational capabilities in Net-Centric Operations/Warfare (NCO/W). Supports Navy implementation of Maritime Domain Awareness (MDA), Standing Joint Force Headquarters, Maritime Operations Centers (MOC) and coalition/allied operations.</p> <p>2) Accelerating Joint Warfighting Capability (Trident Warrior) (TW): Funds At-Sea experiment venue focused on improving C4ISR operational capabilities across all naval and Joint platforms across a range of Technology Readiness Levels (TRLs), representing both Next Step Science and Technology (S&T) Innovations and higher TRL Program of Record-hosted technologies. Finalize analysis of TW10 experiment and deliver a Military Utility Assessment (MUA) to Naval Network Warfare Command (NETWARCOM), Commander Fleet Forces Command (CFFC) and the Sea Trial Expeditionary Strike Group (ESG). Conduct and execute TW11</p> | | | | | |

UNCLASSIFIED

| | |
|--|----------------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | DATE: February 2011 |
|--|----------------------------|

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 9123: <i>FORCENet</i> |
|---|---|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|--------------|-------------|---------------|
|---|---------|---------|--------------|-------------|---------------|

in Commander Second Fleet (C2F)/Commander Sixth Fleet (C6F) Area of Responsibility using Carrier Strike Group/Expeditionary Strike Group (CSG/ESG) units with continued coalition presence. Direct, coordinate, assist and supervise technology provider compliance with specific goal identification, risk identification, and experiment planning to include data collection requirements. Direct and ensure required installation and security certification, accreditation, and approvals for all technologies. Conduct Risk Reduction Limited Objective Experiment (RR LOE) in a lab environment to ensure systems will not have a negative impact on operational unit readiness and provide value-added data to support analysis and subsequent acquisition decisions. Engineer and install experimental C4ISR systems, including a groom of existing onboard ship operational C4ISR systems to ensure that they are operating as designed and support the acquisition of Net Ready Key Performance Parameters (NR KPPs). Provide subject matter experts (SMEs) to maintain core ship services during the experiment period and troubleshoot system failures and interoperability issues. In addition, provide independent experts in experimentation best practices to coordinate experiment and test plans; lead the Data Collection and Analysis Plan (DCAP) effort, and provide unbiased assessment to Fleet and Acquisition key decision makers.

Provide results to government sponsors to support the program's Planning, Programming, Budgeting, and Execution System (PPBES) and engineering decisions. Areas of investigation anticipated to be in the following categories: Range of Operational Warfare Command and Control (ROWC2), operational level implementation of MDA, MOC, Coalition, Global Information Grid (GIG) and Network Centric Enterprise Services (NCES) technologies and associated Tactics, Techniques, and Procedures (TTPs) and Concept of Operations (CONOPS). Plan and execute TW11 operational events to accelerate transition of FORCENet capability to the Fleet. Provide leave-behind capability for one deployment cycle of successful technologies for extended operational assessment. Begin planning for TW12: Solicit participation of government sponsored and industry sponsored technologies responsive to identified naval capability gaps. Select technologies for participation in numbers supportable within resources, approximately 90 initiatives. Develop FY12-13 FORCENet Sea Trial Plan.

(3) Systems Requirements Analysis/Systems Engineering (formerly Osprey Hawksbill): Conduct requirements analysis and systems engineering of systems under development by Department of the Navy (DoN)/Department of Defense (DoD). Provide technical and systems engineering expertise required for Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) systems technical requirements generation and tracking, architecture development, systems analysis to evaluate alignment and synchronization of infrastructure, resources and other existing/developing systems. Funding also supports the

| | | | | | |
|--|--|--|--|--|--|
| | | | | | |
|--|--|--|--|--|--|

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 9123: <i>FORCEnet</i> |

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|----------------|----------------|---------------------|--------------------|----------------------|
| <p>systems engineering for the synthesis of current net-centric C4ISR systems with existing and emerging C4ISR systems.</p> <p><i>FY 2012 Base Plans:</i></p> <p>(1) DoN C4ISR Transformation/Strategic Planning within DoN/Joint/DoD Framework: Within the DoD, Joint Staff (JS), and Combatant Commander management of Joint Capability Portfolios, continue to assess existing and emerging capabilities in selected operating environments, develop integration plans, execute system engineering reviews and investment strategies, accelerate innovation, technology insertion, and incorporation of material and non-material solutions for enhanced Joint operational capabilities in Net-Centric Operations/Warfare (NCO/W). Chief of Naval Operations' (CNO's) Information Dominance effort escalates prioritization and organizational responsibility resulting in increased scope of systems, platforms and mission areas. Continue to support Navy implementation of Maritime Domain Awareness (MDA), Standing Joint Force Headquarters, Maritime Operations Centers (MOC) and coalition/allied operations.</p> <p>(2) Systems Requirements Analysis/Systems Engineering (formerly Osprey Hawksbill): Continues to conduct requirements analysis and systems engineering of systems under development by DoN/DoD. Continues to provide technical and systems engineering expertise required for C4ISR systems technical requirements generation and tracking, architecture development, systems analysis to evaluate alignment and synchronization of infrastructure, resources and other existing/developing systems. Funding also supports the systems engineering for the synthesis of current net-centric C4ISR systems with existing and emerging C4ISR systems. Larger number of systems, platforms and mission areas will increase the scope of effort.</p> | | | | | |
| Accomplishments/Planned Programs Subtotals | 6.049 | 5.667 | 5.386 | - | 5.386 |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

FORCEnet is a non-acquisition effort that informs and matures Navy decisions, which in turn impact acquisition programs.

E. Performance Metrics

FORCEnet Performance Metrics: Goal: CNO strategic planning and supporting acquisition of N89 classified efforts. Metric: Echelon 1 response to emergent strategic needs and classified warfighting capability.

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 9123: <i>FORCEnet</i> |
| <p>Trident Warrior (TW): Confirmation of Fleet and Joint Interoperability with technology candidates, Information Assurance (IA) Certification and Accreditation (C&A), and alignment with current Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) Technology Roadmaps as well as related Program Executive Office objectives and projected architectures. Metrics for individual technologies are independently determined and validated by Naval Postgraduate School. Metrics are chosen to ensure that the experiment results in the accurate assessment of the technology to either address a capability gap or support program of record programmatic decisions.</p> | | |

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 9123: <i>FORCEnet</i> |
|---|---|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Primary Hardware Development DLB/RCD | Various | Various:Various | 1.196 | - | | - | | - | | - | 0.000 | 1.196 | |
| Systems Engineering-DLB/RCD | Various | Various:Various | 0.600 | - | | - | | - | | - | 0.000 | 0.600 | |
| Ship Integration | Various | Various:Various | 0.935 | - | | - | | - | | - | 0.000 | 0.935 | |
| Systems Engineering | Various | Various:Various | 1.600 | - | | - | | - | | - | 0.000 | 1.600 | |
| Subtotal | | | 4.331 | - | | - | | - | | - | 0.000 | 4.331 | |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|--|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Integrated Logistics Support DLB/RCD | Various | Various:Various | 0.250 | - | | - | | - | | - | 0.000 | 0.250 | |
| Configuration Management DLB/RCD | Various | Various:Various | 0.115 | - | | - | | - | | - | 0.000 | 0.115 | |
| Development Support DLB/RCD | Various | Various:Various | 0.250 | - | | - | | - | | - | 0.000 | 0.250 | |
| Software Development DLB/RCD | Various | Various:Various | 1.971 | - | | - | | - | | - | 0.000 | 1.971 | |
| Development Support | Various | Various:Various | 2.700 | - | | - | | - | | - | 0.000 | 2.700 | |
| Software Support | Various | Various:Various | 2.900 | - | | - | | - | | - | 0.000 | 2.900 | |
| Sys Req Analysis/Sys Eng | Various | Various:Various | 15.094 | - | | - | | - | | - | 0.000 | 15.094 | |
| S/W Develop,Integ,Demo, Field - MDA Prototypes | Various | Various:Various | 108.910 | - | | - | | - | | - | 0.000 | 108.910 | |
| Sys Req Analysis/Sys Eng | WR | SSC PAC:San Diego, CA | - | 0.356 | Feb 2011 | 1.420 | Jan 2012 | - | | 1.420 | Continuing | Continuing | Continuing |
| Sys Req Analysis/Sys Eng | WR | SSC LANT:Charleston, SC | - | 0.356 | Feb 2011 | 1.446 | Jan 2012 | - | | 1.446 | Continuing | Continuing | Continuing |
| Subtotal | | | 132.190 | 0.712 | | 2.866 | | - | | 2.866 | | | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 9123: <i>FORCEnet</i> |
|---|---|---|

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | Cost To Complete | Total Cost | Target Value of Contract |
|--|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | | |
| Developmental Test & Evaluation | Various | Various:Various | 1.300 | - | | - | | - | | - | 0.000 | 1.300 | | |
| Accelerating Joint Warfighting Capability (TW) | Various | Various:Various | 30.736 | - | | - | | - | | - | 0.000 | 30.736 | | |
| Accelerating Joint Warfighting Capability (TW) | WR | Fleet Forces Command:San Diego, CA | - | 0.095 | Dec 2010 | - | | - | | - | 0.000 | 0.095 | | |
| Accelerating Joint Warfighting Capability (TW) | WR | Naval Postgraduate School:Monterey, CA | - | 0.978 | Nov 2010 | - | | - | | - | 0.000 | 0.978 | | |
| Accelerating Joint Warfighting Capability (TW) | WR | SSC Atlantic:Charleston, SC | - | 0.445 | Jan 2011 | - | | - | | - | 0.000 | 0.445 | | |
| Accelerating Joint Warfighting Capability (TW) | WR | SSC Pacific:San Diego, CA | - | 1.069 | Nov 2010 | - | | - | | - | 0.000 | 1.069 | | |
| Accelerating Joint Warfighting Capability (TW) | C/CPFF | AUSGAR Technologies Inc.:San Diego, CA | - | 1.489 | Dec 2010 | - | | - | | - | 0.000 | 1.489 | | |
| Imp FORCEnet Req (Fn Comp) | Various | Various:Various | 17.144 | - | | - | | - | | - | 0.000 | 17.144 | | |
| Developmental Test & Evaluation DLB/RCD | Various | Various:Various | 0.500 | - | | - | | - | | - | 0.000 | 0.500 | | |
| DoN Transformation (Strategic Planning) | Various | Various:Various | 20.521 | - | | - | | - | | - | 0.000 | 20.521 | | |
| DoN Transformation (Strategic Planning) | WR | NUWC:Newport, RI | - | 0.240 | Feb 2011 | 0.848 | Jan 2012 | - | | 0.848 | Continuing | Continuing | Continuing | |
| DoN Transformation (Strategic Planning) | WR | NPGS:Monterey, CA | - | 0.290 | Jan 2011 | 0.847 | Jan 2012 | - | | 0.847 | Continuing | Continuing | Continuing | |
| DoN Transformation (Strategic Planning) | C/CPFF | NGIT:Herndon, VA | - | 0.349 | Apr 2011 | - | | - | | - | Continuing | Continuing | Continuing | |
| DoN Transformation (Strategic Planning) | C/CPFF | Unknown:Unknown | - | - | | 0.825 | Apr 2012 | - | | 0.825 | 0.000 | 0.825 | | |
| Subtotal | | | 70.201 | 4.955 | | 2.520 | | - | | 2.520 | | | | |


Remarks
Accelerating Joint Warfighting Capability (Trident Warrior) (TW), was transferred from Project 9123 into new Project 3320 from FY12 forward.

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 9123: <i>FORCEnet</i> |
|---|---|---|

| Fiscal Year | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | 2014 | | | | 2015 | | | | 2016 | | | |
|---|--|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|
| QTR | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Trident Warrior (Accelerating Joint Warfighting Capability) (TW) <i>Moved to new Project 3320 from FY12 forward.</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TW[CFY-1] Military Utility Assessment | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TW [CFY] Execution | | ▲ | ▲ | ▲ | | | | | | | | | | | | | | | | | | | | | | | | |
| TW Lab Based E2C Experiments | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TW[CFY+1] Concept Development Conferences | | ▲ | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | |
| TW[CFY+1] Data Calls & CAA | | ▲ | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | |
| TW[CFY+1] Initial Planning Conferences | | | | ▲ | | | | | | | | | | | | | | | | | | | | | | | | |
| TW[CFY] Mid-Term Planning Conferences | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TW[CFY] Final Planning Conferences | | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TW [CFY] Military Utility Assessment | | | | ▲ | | | | | | | | | | | | | | | | | | | | | | | | |
| Naval Information Dominance Enterprise |  | | | | | | | | | | | | | | | | | | | | | | | | | | | |

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 9123: <i>FORCEnet</i> |
|---|---|---|

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 9123 | | | | |
| Trident Warrior (TW) Execution | 2 | 2010 | 3 | 2011 |
| TW Lab Based E2C Experiments | 1 | 2010 | 3 | 2011 |
| TW Concept Development Conferences | 2 | 2010 | 2 | 2011 |
| TW Data Calls & CAA | 2 | 2010 | 2 | 2011 |
| TW Initial Planning Conferences | 4 | 2010 | 4 | 2011 |
| TW Mid-Term Planning Conferences | 1 | 2010 | 1 | 2011 |
| TW Final Planning Conferences | 2 | 2010 | 2 | 2011 |
| TW Military Utility Assessment | 4 | 2010 | 4 | 2011 |
| Naval Information Dominance Enterprise | 1 | 2010 | 4 | 2016 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604231N: <i>Tactical Command System</i> | PROJECT 9999: <i>Congressional Adds</i> |
|---|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 9999: <i>Congressional Adds</i> | 6.373 | - | - | - | - | - | - | - | - | 0.000 | 6.373 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Congressional Add.

B. Accomplishments/Planned Programs (\$ in Millions)

| | FY 2010 | FY 2011 |
|--|---------|---------|
| Congressional Add: Shipboard Wireless Network | 2.390 | - |
| FY 2010 Accomplishments: Initiated hardware development of 60 GHz Vi-Fi technology from NAVSEA SBIR to work in shipboard environment. Began systems engineering efforts to modify design and interfaces to be interoperable with current and planned wireless network implementations, as well as client devices provided through NAVSEA and NAVAIR programs. Conducted modeling and simulation, network integration and electromagnetic testing to verify interoperability with existing shipboard systems. | | |
| Congressional Add: ISR Enhancements | 3.983 | - |
| FY 2010 Accomplishments: Continue to fund requirements analysis, development of architectural alternatives, use case generation, CONOPS development and system engineering activities necessary to incorporate multiple security enclaves (projected Objective requirement for Increment 2.1 and Threshold requirement for Increment 3.0) into Tactical Operations Centers (TOCs) and Mobile Tactical Operations Centers (MTOCs) to support the enhanced ISR capabilities of new and upgraded Maritime Patrol and Reconnaissance Aircraft (MPRA). | | |
| Congressional Adds Subtotals | 6.373 | - |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

Congressional Add.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | R-1 ITEM NOMENCLATURE PE 0604234N: <i>Advanced Hawkeye</i> | | | | | | | |
|---|----------------|----------------|---------------------|--|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| Total Program Element | 346.194 | 171.132 | 110.994 | - | 110.994 | 78.551 | 66.627 | 42.141 | 54.773 | Continuing | Continuing |
| 3051: <i>E-2C RMP</i> | 346.194 | 171.132 | 110.994 | - | 110.994 | 78.551 | 66.627 | 42.141 | 54.773 | Continuing | Continuing |

A. Mission Description and Budget Item Justification

The E-2D Advanced Hawkeye (AHE) program develops, demonstrates, tests, and procures the replacement of the AN/APS-145 radar system and other aircraft system components including Cooperative Engagement Capability Pre-Planned Product Improvement and Dual Transmit Satellite Communications that modernize the E-2 weapon system to maintain open ocean mission capability while providing the United States Navy with an effective littoral surveillance, battle management, and Theater Air and Missile Defense (TAMD) capability. Key radar technologies are Space-Time Adaptive Processing, Electronically Scanning Array, solid state transmitter, high dynamic range digital receivers and Identification Friend or Foe (IFF)/radar aperture integration. The resultant detection system will provide a substantially improved overland performance by correcting current sensor shortfalls and enhancing all current required mission areas, while simultaneously contributing to the emerging TAMD mission requirements. Mode 5/S is an upgrade to the existing IFF System providing the warfighter positive, secure and reliable identification of friendly aircraft, surface and sub-surface platforms. Mode 5/S replaces the National Security Administration de-certified Mode 4 IFF capability, which is no longer effective or suitable for modern military operations. Mode 5/S will support the Joint Initial Operational Capability (IOC) as defined by the Joint Requirements Oversight Council.

This program element was utilized for AHE Radar Modernization Program pre-System Development and Demonstration (Pre-SDD), followed by SDD. Major activities in FY 2009 included continued subsystem and weapon system verification testing, discrepancy report and yellow sheet resolution and on-going risk reduction efforts on the two SDD aircraft. The three pilot production aircraft continue being manufactured on the production line, and Milestone C approval gave authority to enter the production and deployment phase and to procure Low Rate Initial Production lot aircraft. A second Operational Assessment on SDD aircraft will be conducted in FY 2010, with Initial Operational Test and Evaluation scheduled for FY 2012. IOC is planned for FY 2015.

An In-Flight Refueling (IFR) capability will allow the E-2D AHE to receive fuel from various organic and non-organic tanker aircraft. It provides Expanded Battle Space Surveillance and Targeting through significantly enhanced persistence and increased flexibility (range & endurance). IFR will better enable the E-2D AHE to fully support current Carrier Strike Group /Joint 24/7 Theater Operations by providing more versatile stationing and/or forward basing options. Previous domestic E-2 concept demonstration effort successfully established the feasibility of tanking behind the F/A-18E/F and KC-130 aircraft under E-2 Squadrons, PE 0204152N.

Link-16 Crypto Modernization and frequency remap are required to satisfy the National Security Agency and Federal Aviation Administration mandates. E-2D AHE uses Link-16 to exchange and provide tactical information with other tactical units. The Link-16 Crypto Modernization and frequency remap effort requires the integration of a modified Multifunctional Information Distribution System - Low Volume Terminal (1) terminal and software modification to the E-2D AHE mission computer operational flight program.

FY2012 starts the Guard Radio program. The Ultra High Frequency (UHF) Guard Radio allows the aircrew to monitor the emergency UHF Guard frequency without having to dedicate a specific radio, freeing that radio up for use in the tactical mission. Because of the UHF Tunable Filter Amplifiers, the ARC-210 radios can not

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|--------------------------------------|
| APPROPRIATION/BUDGET ACTIVITY | R-1 ITEM NOMENCLATURE |
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> | PE 0604234N: <i>Advanced Hawkeye</i> |
| BA 5: <i>Development & Demonstration (SDD)</i> | |

provide continuous UHF guard monitoring, although the internal guard receiver is operational. A separate UHF guard receiver is provided for monitoring the UHF guard (243 MHz) frequency. It is powered by the Guard switch located on the Communication/Control Display Unit Power Panel.

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 361.053 | 171.132 | 77.067 | - | 77.067 |
| Current President's Budget | 346.194 | 171.132 | 110.994 | - | 110.994 |
| Total Adjustments | -14.859 | - | 33.927 | - | 33.927 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | -3.200 | - | | | |
| • SBIR/STTR Transfer | -11.146 | - | | | |
| • Program Adjustments | - | - | 35.242 | - | 35.242 |
| • Section 219 Reprogramming | -0.504 | - | - | - | - |
| • Rate/Misc Adjustments | - | - | -1.315 | - | -1.315 |
| • Congressional General Reductions Adjustments | -0.009 | - | - | - | - |

Change Summary Explanation

Technical: Not applicable.

Schedule: Updated Pilot Production delivery schedule and LRIP III Production delivery schedule.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604234N: <i>Advanced Hawkeye</i> | PROJECT 3051: <i>E-2C RMP</i> |
|---|--|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|----------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 3051: <i>E-2C RMP</i> | 346.194 | 171.132 | 110.994 | - | 110.994 | 78.551 | 66.627 | 42.141 | 54.773 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

The E-2D Advanced Hawkeye (AHE) program develops, demonstrates, tests, and procures the replacement of the AN/APS-145 radar system and other aircraft system components including Cooperative Engagement Capability Pre-Planned Product Improvement and Dual Transmit Satellite Communications that modernize the E-2 weapon system to maintain open ocean mission capability while providing the United States Navy with an effective littoral surveillance, battle management, and Theater Air and Missile Defense (TAMD) capability. Key radar technologies are Space-Time Adaptive Processing, Electronically Scanning Array, solid state transmitter, high dynamic range digital receivers and Identification Friend or Foe (IFF)/radar aperture integration. The resultant detection system will provide a substantially improved overland performance by correcting current sensor shortfalls and enhancing all current required mission areas, while simultaneously contributing to the emerging TAMD mission requirements. Mode 5/S is an upgrade to the existing IFF System providing the warfighter positive, secure and reliable identification of friendly aircraft, surface and sub-surface platforms. Mode 5/S replaces the National Security Administration de-certified Mode 4 IFF capability, which is no longer effective or suitable for modern military operations. Mode 5/S will support the Joint Initial Operational Capability (IOC) as defined by the Joint Requirements Oversight Council.

This program element was utilized for AHE Radar Modernization Program pre-System Development and Demonstration (Pre-SDD), followed by SDD. Major activities in FY 2009 included continued subsystem and weapon system verification testing, discrepancy report and yellow sheet resolution and on-going risk reduction efforts on the two SDD aircraft. The three pilot production aircraft continue being manufactured on the production line, and Milestone C approval gave authority to enter the production and deployment phase and to procure Low Rate Initial Production lot aircraft. A second Operational Assessment on SDD aircraft will be conducted in FY 2010, with Initial Operational Test and Evaluation scheduled for FY 2012. IOC is planned for FY 2015.

An In-Flight Refueling (IFR) capability will allow the E-2D AHE to receive fuel from various organic and non-organic tanker aircraft. It provides Expanded Battle Space Surveillance and Targeting through significantly enhanced persistence and increased flexibility (range & endurance). IFR will better enable the E-2D AHE to fully support current Carrier Strike Group /Joint 24/7 Theater Operations by providing more versatile stationing and/or forward basing options. Previous domestic E-2 concept demonstration effort successfully established the feasibility of tanking behind the F/A-18E/F and KC-130 aircraft under E-2 Squadrons, PE 0204152N.

Link-16 Crypto Modernization and frequency remap are required to satisfy the National Security Agency and Federal Aviation Administration mandates. E-2D AHE uses Link-16 to exchange and provide tactical information with other tactical units. The Link-16 Crypto Modernization and frequency remap effort requires the integration of a modified Multifunctional Information Distribution System - Low Volume Terminal (1) terminal and software modification to the E-2D AHE mission computer operational flight program.

FY2012 starts the Guard Radio program. The Ultra High Frequency (UHF) Guard Radio allows the aircrew to monitor the emergency UHF Guard frequency without having to dedicate a specific radio, freeing that radio up for use in the tactical mission. Because of the UHF Tunable Filter Amplifiers, the ARC-210 radios can not

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604234N: <i>Advanced Hawkeye</i> | PROJECT 3051: <i>E-2C RMP</i> |
|---|--|---|

provide continuous UHF guard monitoring, although the internal guard receiver is operational. A separate UHF guard receiver is provided for monitoring the UHF guard (243 MHz) frequency. It is powered by the Guard switch located on the Communication/Control Display Unit Power Panel.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|--------------|-------------|--------------|-------------|---------------|
| <p>Title: System Development and Demonstration</p> <p align="right">Articles:</p> <p>Description: System Development and Demonstration (SD&D) contract with Northrop Grumman Corporation for SD&D and Pilot Production efforts for the E-2D Advanced Hawkeye (AHE) Program.</p> <p>FY 2010 Accomplishments: Continued SD&D, Pilot Production, Cooperative Engagement Capability Pre-Planned Product Improvement, and Dual Transmit Satellite Communications efforts.</p> <p>FY 2011 Plans: Conduct System Functional Qualification Testing, Operational Evaluation (OPEVAL) readiness testing and Production Validation, Weapon System functional and physical configuration audits of Pilot Production aircraft.</p> <p>FY 2012 Base Plans: Conduct OPEVAL.</p> | 206.338 0 | 73.915 0 | 7.636 0 | - | 7.636 0 |
| <p>Title: Government Furnished Equipment</p> <p align="right">Articles:</p> <p>Description: Government Furnished Equipment (GFE) for the Pilot Production aircraft and other AHE efforts.</p> <p>FY 2010 Accomplishments: Funded GFE for the Naval Integrated Fire Control-Counter Air (NIFC-CA) Test and Evaluation effort.</p> <p>FY 2011 Plans: Funds GFE for the NIFC-CA Test and Evaluation effort.</p> | 3.193 0 | 1.208 0 | - | - | - |
| <p>Title: Naval Air Warfare Center Aircraft Division Engineering and Test Support</p> <p align="right">Articles:</p> <p>Description: Fund Government Engineering, Contractor Engineering, and Classified Engineering Support. Perform Government oversight. Execute test program risk reduction efforts.</p> <p>FY 2010 Accomplishments:</p> | 38.047 0 | 40.785 0 | 61.281 0 | - | 61.281 0 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604234N: <i>Advanced Hawkeye</i> | PROJECT 3051: <i>E-2C RMP</i> |
|---|--|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|--------------|-------------|---------------|
|---|---------|---------|--------------|-------------|---------------|

Funded the continuation of developmental testing including radar performance testing, remaining full system integration testing. Continue Weapon System Specification Verification for resolution of deficiencies prior to OPEVAL.

FY 2011 Plans:

Funds the continuation of developmental testing including radar performance testing, remaining full system integration testing, and NIFC-CA AHE efforts. Continue Weapon System Specification Verification for resolution of deficiencies prior to OPEVAL.

FY 2012 Base Plans:

Funding is for OPEVAL, NIFC-CA AHE, In-Flight Refueling (IFR) and Follow-On Test & Evaluation efforts.

Title: NC-130H/E-2D Classified Programs

Articles:

| | | | | |
|--------|-------|-------|---|-------|
| 35.353 | 3.250 | 0.802 | - | 0.802 |
| 0 | 0 | 0 | | 0 |

Description: Provides support for the E-2D AHE Classified Development efforts.

FY 2010 Accomplishments:

Funded E-2D AHE Classified Development efforts.

FY 2011 Plans:

Funds the continuation of E-2D AHE Classified Development efforts.

FY 2012 Base Plans:

Funding is for the continuation of E-2D AHE Classified Development efforts.

Title: Trainers

Articles:

| | | | | |
|--------|--------|--------|---|--------|
| 43.977 | 25.193 | 14.152 | - | 14.152 |
| 0 | 0 | 0 | | 0 |

Description: Funds the design, development and delivery of the trainers in support of the E-2D AHE program.

FY 2010 Accomplishments:

Funded the development of the Weapons System Trainer (WST) and the Operational Flight Trainer (OFT), also funds the design of the Simulated Maintenance Trainer.

FY 2011 Plans:

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604234N: <i>Advanced Hawkeye</i> | PROJECT 3051: <i>E-2C RMP</i> |
|---|--|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|--------------|-------------|---------------|
|---|---------|---------|--------------|-------------|---------------|

| | | | | | |
|---|--|--|--|--|--|
| Funds the development of the WST and the Simulated Maintenance Trainer, also funds the delivery of the OFT. FY 2012 Base Plans: Funding is for the development of the WST and the Simulated Maintenance Trainer, also funds the delivery of the OFT. | | | | | |
|---|--|--|--|--|--|

| | | | | | |
|---|-------------|-------------|-------------|-------|-------------|
| Title: Mode 5/S Description: Mode 5/S is the replacement/upgrade to the existing identification Friend or Foe (IFF) system. FY 2010 Accomplishments: Funded the system development of IFF Mode 5/S technology into the E-2D AHE IFF Interrogator mission equipment. Emphasis will be on software development for both the IFF Enclosure and the Mission Computer. FY 2011 Plans: Funds system development, integration and testing to support the incorporation of IFF Mode 5/S technology into the E-2D AHE IFF Interrogator mission equipment. Integration testing will include laboratory, ground and flight tests. FY 2012 Base Plans: Funding is for system development, integration and testing to support the incorporation of IFF Mode 5/S technology into the E-2D AHE IFF Interrogator mission equipment. Integration testing will include laboratory, ground and flight tests. | 19.286 0 | 26.781 0 | 20.077 0 | - | 20.077 0 |
|---|-------------|-------------|-------------|-------|-------------|

| | | | | | |
|--|-------|-------|------------|-------|------------|
| Title: In-Flight Refueling Description: Funds the system development and testing to support the incorporation of IFR capability into the E-2D AHE aircraft. Emphasis during system development is on system redesign, air vehicle design, human systems integration and design, including interior/lighting modifications and seat replacement. Flight testing is required to evaluate field of view, thermal and aerodynamic loads, kinematic performance, and handling qualities. FY 2012 Base Plans: | - | - | 5.148 0 | - | 5.148 0 |
|--|-------|-------|------------|-------|------------|

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604234N: <i>Advanced Hawkeye</i> | PROJECT 3051: <i>E-2C RMP</i> |
|---|--|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|---------|---------|--------------|-------------|---------------|
| Funding is for the system development efforts. | | | | | |
| Title: Guard Radio <div style="text-align: right;">Articles:</div> | - | - | 1.898 0 | - | 1.898 0 |
| Description: The Ultra High Frequency (UHF) Guard Radio allows the aircrew to monitor the emergency UHF Guard frequency without having to dedicate a specific radio, freeing that radio up for use in the tactical mission. Due to the UHF Tunable Filter Amplifiers, the ARC-210 radios can not provide continuous UHF guard monitoring, although the internal guard receiver is operational. A separate UHF guard receiver is provided for monitoring the UHF guard (243 MHz) frequency. It is powered by the Guard switch located on the Communication/Control Display Unit Power Panel. | | | | | |
| FY 2012 Base Plans: Funding is for engineering efforts and system integration. | | | | | |
| Accomplishments/Planned Programs Subtotals | 346.194 | 171.132 | 110.994 | - | 110.994 |

| C. Other Program Funding Summary (\$ in Millions) | | | | | | | | | | | |
|---|---------|---------|--------------|-------------|---------------|-----------|-----------|-----------|-----------|------------------|------------|
| Line Item | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| • APN/0195 : <i>E-2D AHE</i> | 742.061 | 937.803 | 1,072.834 | 163.500 | 1,236.334 | 1,308.850 | 1,599.492 | 1,398.859 | 1,417.059 | 4,605.325 | 13,731.882 |
| • APN/0605: <i>Initial Spares - E-2</i> | 37.775 | 23.618 | 38.712 | 0.000 | 38.712 | 50.178 | 31.355 | 30.239 | 28.591 | 106.090 | 404.733 |
| • APN/0544: <i>E-2 Series (Includes OSIPs 008-14 Dual Transmit SATCOM, 009-14 Mode 5/S, and 011-14 E-2D Avionics)</i> | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 9.945 | 13.781 | 14.669 | 43.658 | 82.053 |

D. Acquisition Strategy
 Acquisition Strategy was signed by Milestone Decision Authority, Under Secretary of Defense for Acquisition, Technology and Logistics on 29 Dec 2008. Milestone C approval to proceed into Production and Deployment was given 11 June 2009 by the Defense Acquisition Board (DAB).

E. Performance Metrics
 Successfully receive a DAB decision for approval to procure Low Rate Initial Production Lots III and IV. Successfully conduct an Operational Test Readiness Review for entrance into OPEVAL.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604234N: <i>Advanced Hawkeye</i> | PROJECT 3051: <i>E-2C RMP</i> |
|---|--|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Primary Hardware Development | SS/CPAF | Northrop Grumman Corporation (NGC):Bethpage, NY | 2,795.059 | 63.964 | Oct 2010 | 16.306 | Oct 2011 | - | | 16.306 | 88.109 | 2,963.438 | 2,963.438 |
| Primary Hardware - In Flight Refueling | TBD | NGC:Bethpage, NY | - | - | | 5.148 | May 2012 | - | | 5.148 | 29.317 | 34.465 | 34.465 |
| Training Development | C/CPAF | Rockwell Collins:Cedar Rapids, IA | 77.508 | 22.961 | May 2011 | 13.183 | May 2012 | - | | 13.183 | 1.966 | 115.618 | 115.618 |
| Training Development | C/CPAF | Lockheed Martin:Liverpool, NY | 5.694 | 1.040 | May 2011 | 0.238 | May 2012 | - | | 0.238 | 0.000 | 6.972 | 6.972 |
| Systems Engineering | PO | Navy Syst Mgt Activity:Arlington, VA | 156.282 | 3.250 | Mar 2011 | 0.800 | Mar 2012 | - | | 0.800 | 0.500 | 160.832 | |
| Government Furnished Equipment (GFE) | C/CPAF | Naval Sea Systems Command:WNY, DC | 17.545 | 3.192 | Mar 2011 | - | | - | | - | 0.000 | 20.737 | 20.737 |
| GFE | Various | Various:Various | 31.301 | 1.208 | Jan 2011 | - | | - | | - | 1.199 | 33.708 | |
| Award Fees | SS/CPAF | NGC:Bethpage, NY | 137.128 | 2.820 | Aug 2011 | - | | - | | - | 0.000 | 139.948 | 139.948 |
| Prior Year Costs No Longer Funded in FYDP | Various | Various:Various | 150.497 | - | | - | | - | | - | 0.000 | 150.497 | |
| Subtotal | | | 3,371.014 | 98.435 | | 35.675 | | - | | 35.675 | 121.091 | 3,626.215 | |

Remarks
 Totals may not add due to rounding.
 Award Fee:
 Period 1 FY04 - 90% Period 5 FY06 - 100%
 Period 2 FY04 - 91% Period 6 FY07 - 95%
 Period 3 FY05 - 80% Period 7 FY08 - 94%
 Period 4 FY06 - 94% Period 8 FY09 - 93%
 Period 9 FY09 - 95% Period 9 FY10 - 95%

Changes made to Product Development: Corrected Training Development funding between Rockwell Collins and Lockheed Martin. Government Furnished Equipment (GFE) procured in FY 10 instead of FY11 for Cooperative Engagement Capability - long lead item.
 GFE - various contractors and award dates throughout the fiscal year.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604234N: <i>Advanced Hawkeye</i> | PROJECT 3051: <i>E-2C RMP</i> |
|---|--|---|

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|--|------------------------|---|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Development Support | Various | Various:Various | 9.400 | 0.257 | Dec 2010 | - | | - | | - | 1.228 | 10.885 | |
| Software Development | SS/CPIF | NGC:Bethpage, NY | 17.626 | 18.003 | Apr 2011 | 14.171 | Apr 2012 | - | | 14.171 | 12.013 | 61.813 | 61.813 |
| Integrated Logistics Support | Various | Various:Various | 6.131 | 1.694 | Dec 2010 | 1.104 | Nov 2011 | - | | 1.104 | 3.939 | 12.868 | |
| Government Engineering Sup | WR | Naval Air Warfare Center Aircraft Division (NAWCAD:Pax River, MD) | 77.206 | 8.876 | Nov 2010 | 3.613 | Nov 2011 | - | | 3.613 | 11.802 | 101.497 | |
| Government Engineering Sup | WR | Naval Air Warfare Center Training Systems Division:Orlando, FL | 8.010 | 1.394 | Nov 2010 | 0.731 | Nov 2011 | - | | 0.731 | 0.000 | 10.135 | |
| Government Engineering Sup | Various | Various:Various | 11.206 | 1.023 | Nov 2010 | 0.503 | Nov 2011 | - | | 0.503 | 2.346 | 15.078 | |
| Government Engineering Sup | WR | NAWCAD:Lakehurst, NJ | 3.137 | 0.617 | Nov 2010 | - | | - | | - | 0.000 | 3.754 | |
| Contractor Engineering Supt Engineering Technical Services (ETS) | Various | Various:Various | 7.868 | 1.339 | Dec 2010 | - | | - | | - | 0.000 | 9.207 | |
| Contractor Engineering Supt ETS | C/CPFF | Wyle Labs:Huntsville, AL | 20.873 | 2.441 | Dec 2010 | 2.442 | Dec 2011 | - | | 2.442 | 0.807 | 26.563 | 26.563 |
| Contractor Engineering Supt ETS | C/CPFF | Deloitte:Lexington Park, MD | 3.356 | 0.834 | Dec 2010 | 0.427 | Dec 2011 | - | | 0.427 | 0.000 | 4.617 | 4.617 |
| Technical Data | Various | Various:Various | 0.133 | - | | 0.200 | Mar 2012 | - | | 0.200 | 2.372 | 2.705 | |
| Configuration Management | TBD | Various:Various | - | - | | 0.125 | Dec 2011 | - | | 0.125 | 0.650 | 0.775 | |
| Prior Year Costs No Longer Funded in FYDP | Various | Various:Various | 18.315 | - | | - | | - | | - | 0.000 | 18.315 | |
| Integrated Logistics Support | TBD | NGC:Bethpage, NY | - | - | | 0.030 | Mar 2012 | - | | 0.030 | 1.976 | 2.006 | 2.006 |
| Subtotal | | | 183.261 | 36.478 | | 23.346 | | - | | 23.346 | 37.133 | 280.218 | |

Remarks
 Totals may not add due to rounding.
 Development Support, Integrated Logistics Support, Government Engineering Support, Contractor Engineering Support, Technical Data and Configuration Management - various contractors and award dates throughout the fiscal year.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604234N: <i>Advanced Hawkeye</i> | PROJECT 3051: <i>E-2C RMP</i> |
|---|--|---|

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Developmental Test & Evaluation (T&E) | WR | NAWCAD:Pax River, MD | 52.524 | 12.879 | Nov 2010 | 9.097 | Nov 2011 | - | | 9.097 | 49.649 | 124.149 | |
| Developmental T & E | Various | Various:Various | 24.474 | 10.239 | Dec 2010 | 1.411 | Dec 2011 | - | | 1.411 | 8.357 | 44.481 | |
| Developmental T & E 1 | TBD | Various:Various | - | - | | 7.658 | Mar 2012 | - | | 7.658 | 30.952 | 38.610 | |
| Developmental T&E ETS | C/CPFF | Wyle Labs:Huntsville, AL | 6.193 | 2.384 | Dec 2010 | 2.972 | Dec 2011 | - | | 2.972 | 2.460 | 14.009 | 14.009 |
| Developmental T&E ETS | Various | Various:Various | 1.996 | 0.704 | Dec 2010 | 2.097 | Dec 2011 | - | | 2.097 | 0.000 | 4.797 | |
| Developmental T&E ETS | C/FFP | L-3 Communications:Newport News, VA | 4.957 | 2.066 | Dec 2010 | 1.809 | Dec 2011 | - | | 1.809 | 2.225 | 11.057 | 11.057 |
| Operational T & E | WR | NAWCAD:Pax River, MD | 0.146 | - | | 23.862 | Nov 2011 | - | | 23.862 | 5.450 | 29.458 | |
| Operational T & E | Various | Various:Various | 1.917 | 2.356 | Dec 2010 | 0.759 | Dec 2011 | - | | 0.759 | 1.663 | 6.695 | |
| Test Assets | SS/CPAF | NGC:Bethpage, NY | 3.900 | - | | 0.199 | Mar 2012 | - | | 0.199 | 12.166 | 16.265 | 16.265 |
| Prior Year Costs No Longer Funded in FYDP | Various | Various:Various | 7.865 | - | | - | | - | | - | 0.000 | 7.865 | |
| Subtotal | | | 103.972 | 30.628 | | 49.864 | | - | | 49.864 | 112.922 | 297.386 | |

Remarks

Totals may not add due to rounding.
Developmental Test & Evaluation (T&E), Developmental T&E, Engineering & Technical Services and Operational T&E - various contractors and award dates throughout the fiscal year.

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Contractor Engineering Support Management & Professional Support Services (MSS) | Various | Various:Various | 1.705 | 0.941 | Dec 2010 | 0.903 | Dec 2011 | - | | 0.903 | 0.000 | 3.549 | |
| Contractor Engineering Support MSS | C/CPFF | Wyle Labs:Huntsville, AL | 9.779 | 1.399 | Dec 2010 | 0.345 | Dec 2011 | - | | 0.345 | 0.000 | 11.523 | 11.523 |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604234N: <i>Advanced Hawkeye</i> | PROJECT 3051: <i>E-2C RMP</i> |
|---|--|---|

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Government Engineering Support | WR | NAWCAD:Pax River, MD | 8.994 | 2.082 | Nov 2010 | 0.610 | Nov 2011 | - | | 0.610 | 1.358 | 13.044 | |
| Government Engineering Support | Various | Various:Various | 14.458 | 0.317 | Nov 2010 | - | | - | | - | 0.000 | 14.775 | |
| Program Management Support | Various | Various:Various | 1.920 | 0.752 | Nov 2010 | 0.095 | Nov 2011 | - | | 0.095 | 0.180 | 2.947 | |
| Travel | Various | Various:Various | 2.144 | 0.100 | Oct 2010 | 0.156 | Oct 2011 | - | | 0.156 | 0.546 | 2.946 | |
| Prior Year Costs No Longer Funded in FYDP | Various | Various:Various | 26.174 | - | | - | | - | | - | 0.000 | 26.174 | |
| Subtotal | | | 65.174 | 5.591 | | 2.109 | | - | | 2.109 | 2.084 | 74.958 | |

Remarks
Totals may not add due to rounding.
Contractor Engineering Support, Government Engineering Support, Program Support and Travel - various contractors and/or award dates throughout the fiscal year.

| | Total Prior Years Cost | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|-------------------------------|----------------|---------|---------------------|---------|--------------------|--|----------------------|-------------------------|-------------------|---------------------------------|
| Project Cost Totals | | 3,723.421 | 171.132 | | 110.994 | - | | 110.994 | 273.230 | 4,278.777 | |

Remarks
Totals may not add due to rounding.

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604234N: <i>Advanced Hawkeye</i> | PROJECT 3051: <i>E-2C RMP</i> |
|---|--|---|

| E-2C RMP IFR | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------|---------|----|----|----|---------|----|----|----|-------------------|----|----|----|---------|----|----|----|-------------------|----|----|----|---------|----|----|----|---------|----|----|----|--|--|--|--|-----|--|--|--|--|--|--|--|-----|--|--|--|--|--|--|--|-------|--|--|--|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | | | | | | | | | | | | | | | | | | | | | | | | |
| System Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hardware/Software Development | | | | | | | | | Valve Trade Study | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | E&MD | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reviews | | | | | | | | | SRR/SFR | | | | | | | | PDR | | | | | | | | CDR | | | | | | | | FRR | | | | | | | | EOA | | | | | | | | OT/RR | | | |
| Test & Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Technical Evaluation | | | | | | | | | | | | | | | | | SIL Test | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | Fuel Rig Test | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | Instr-A/C Modern. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | First Flt | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604234N - 3051

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604234N: *Advanced Hawkeye*

PROJECT

3051: *E-2C RMP*

| E-2C RMP Link 16 Crypto Modernization | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|---------------------------------------|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q |
| System Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hardware Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Software Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SIL Integr. | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test & Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Technical Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604234N - 3051

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604234N: <i>Advanced Hawkeye</i> | PROJECT 3051: <i>E-2C RMP</i> |
|---|--|---|

| E-2C RMP Guard Radio | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|------------------------------|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q |
| System Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hardware Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sys Integration Design | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test & Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Technical Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SIL Integr & Test | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VAL ▼ | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fit Test | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604234N - 3051

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604234N: <i>Advanced Hawkeye</i> | PROJECT 3051: <i>E-2C RMP</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| E-2C RMP | | | | |
| Acquistion Milestones: Milestones: Acquistion Milestones - Overarching Integrated Product Team | 2 | 2010 | 2 | 2010 |
| Acquistion Milestones: Milestones: Acquistion Milestones - Defense Acquisition Board | 2 | 2011 | 2 | 2011 |
| Acquistion Milestones: Milestones: Acquistion Milestones - Full Rate Production (FRP) | 1 | 2013 | 1 | 2013 |
| Acquistion Milestones: Milestones: Acquistion Milestones - Initial Operational Capabilities | 1 | 2015 | 1 | 2015 |
| Test & Evaluation: Technical Evaluation: Test & Evaluation Milestones - Development Test - System Development & Demonstration #1 & 2 | 1 | 2010 | 4 | 2011 |
| Test & Evaluation: Technical Evaluation: Test & Evaluation Milestones - Developmental Test (DT)/DT Assist - Pilot Production | 4 | 2010 | 4 | 2011 |
| Test & Evaluation: Operational Evaluation: Test & Evaluation Milestones - Operational Assessment #2 | 4 | 2010 | 4 | 2010 |
| Test & Evaluation: Operational Evaluation: Test & Evaluation Milestones - Operational Test - Readiness Review | 4 | 2011 | 4 | 2011 |
| Test & Evaluation: Operational Evaluation: Test & Evaluation Milestones - Operational Evaluation | 1 | 2012 | 2 | 2012 |
| Test & Evaluation: Operational Evaluation: Follow On Test & Evaluation | 1 | 2012 | 4 | 2016 |
| Production Milestones: Contract Awards: Production Milestones - Low Rate Initial Production (LRIP) II Contract Award (CA) (3 A/C APN) | 2 | 2010 | 2 | 2010 |
| Production Milestones: Contract Awards: Production Milestones - LRIP III CA (4 A/C APN) | 3 | 2011 | 3 | 2011 |
| Production Milestones: Contract Awards: Production Milestones - LRIP IV CA (6 A/C APN) | 2 | 2012 | 2 | 2012 |
| Production Milestones: Contract Awards: Production Milestones - FRP CA | 3 | 2013 | 3 | 2013 |

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604234N: <i>Advanced Hawkeye</i> | PROJECT 3051: <i>E-2C RMP</i> |

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Production Milestones: Contract Awards: Production Milestones - FRP Lot II CA | 2 | 2014 | 2 | 2014 |
| Production Milestones: Contract Awards: Production Milestones - FRP Lot III CA | 2 | 2015 | 2 | 2015 |
| Production Milestones: Contract Awards: Production Milestones - FRP Lot IV CA | 2 | 2016 | 2 | 2016 |
| Deliveries: Production Deliveries - Pilot Production (3 A/C) | 3 | 2010 | 1 | 2011 |
| Deliveries: Production Deliveries - LRIP I (2 A/C APN) | 4 | 2011 | 1 | 2012 |
| Deliveries: Production Deliveries - LRIP II (3 A/C APN) | 3 | 2012 | 2 | 2013 |
| Deliveries: Production Deliveries - LRIP III (4 A/C APN) | 3 | 2013 | 2 | 2014 |
| Deliveries: Production Deliveries - LRIP IV (6 A/C APN) | 3 | 2014 | 2 | 2015 |
| Deliveries: Production Deliveries - FRP I (7 A/C) | 2 | 2015 | 1 | 2016 |
| Deliveries: Production Deliveries - FRP II (8 A/C) | 2 | 2016 | 4 | 2016 |
| E-2C RMP IFR | | | | |
| System Development: Hardware/Software Development: In-Flight Refueling - Valve Trade Study | 1 | 2012 | 1 | 2013 |
| System Development: Hardware/Software Development: In-Flight Refueling - Engineering & Manufacturing Development | 1 | 2012 | 4 | 2016 |
| System Development: Reviews: In-Flight Refueling - System Requirements Review2/ System Functional Review | 1 | 2012 | 1 | 2012 |
| System Development: Reviews: In-Flight Refueling - Preliminary Design Review | 2 | 2014 | 2 | 2014 |
| System Development: Reviews: In-Flight Refueling - Critical Design Review | 2 | 2015 | 2 | 2015 |
| System Development: Reviews: In-Flight Refueling - Functional Readiness Review | 1 | 2016 | 1 | 2016 |
| System Development: Reviews: In-Flight Refueling - Early Operational Assessment | 3 | 2016 | 3 | 2016 |
| System Development: Reviews: In-Flight Refueling - Operational Test - Readiness Review | 4 | 2016 | 4 | 2016 |
| Test & Evaluation: Technical Evaluation: In-Flight Refueling - SIL Test | 4 | 2014 | 2 | 2015 |
| Test & Evaluation: Technical Evaluation: In-Flight Refueling - Fuel Rig Test | 1 | 2015 | 4 | 2015 |

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604234N: <i>Advanced Hawkeye</i> | PROJECT 3051: <i>E-2C RMP</i> |

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Test & Evaluation: Technical Evaluation: In-Flight Refueling - Instrumentation/Aircraft Mod | 3 | 2015 | 1 | 2016 |
| Test & Evaluation: Technical Evaluation: In-Flight Refueling - First Flight | 1 | 2016 | 1 | 2016 |
| <i>E-2C RMP Link 16 Crypto Modernization</i> | | | | |
| System Development: Hardware Development: Link-16 Crypto Modernization - Multifunctional Information Distribution System Hardware Procurement | 2 | 2013 | 3 | 2014 |
| System Development: Software Development: Link-16 Crypto Modernization - Software Development | 2 | 2014 | 1 | 2015 |
| System Development: Software Development: Link-16 Crypto Modernization - System Integration Laboratory (SIL) Integration | 4 | 2014 | 2 | 2015 |
| Test & Evaluation: Technical Evaluation: Link-16 Crypto Modernization - Flight Test | 2 | 2015 | 1 | 2016 |
| Test & Evaluation: Technical Evaluation: Link-16 Crypto Modernization - Validation (VAL) | 2 | 2016 | 2 | 2016 |
| Test & Evaluation: Technical Evaluation: Link-16 Crypto Modernization - Verification (VER) | 3 | 2016 | 3 | 2016 |
| <i>E-2C RMP Guard Radio</i> | | | | |
| System Development: Hardware Development: Guard Radio - System Integration Design | 3 | 2012 | 4 | 2013 |
| Test & Evaluation: Technical Evaluation: Guard Radio - SIL Integration & Test | 3 | 2013 | 4 | 2014 |
| Test & Evaluation: Technical Evaluation: Guard Radio - VAL | 3 | 2014 | 3 | 2014 |
| Test & Evaluation: Technical Evaluation: Guard Radio - Flight Test | 4 | 2014 | 2 | 2015 |

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | | | R-1 ITEM NOMENCLATURE | | | | | | | | |
|---|----------------|----------------|----------------------------------|--------------------|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> | | | PE 0604245N: <i>H-1 Upgrades</i> | | | | | | | | |
| BA 5: <i>Development & Demonstration (SDD)</i> | | | | | | | | | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| Total Program Element | 31.332 | 60.498 | 72.569 | - | 72.569 | 28.060 | 44.711 | 47.537 | 48.297 | Continuing | Continuing |
| 2279: <i>4BW/4BN Upgrade</i> | 31.332 | 60.498 | 72.569 | - | 72.569 | 28.060 | 44.711 | 47.537 | 48.297 | Continuing | Continuing |

A. Mission Description and Budget Item Justification

The mission of the AH-1W attack helicopter is to provide rotary wing close air support, anti-armor, armed escort, armed/visual reconnaissance, survivability enhancements, and fire support coordination capabilities under day/night and adverse weather conditions. The mission of the UH-1N utility helicopter is to provide command and control and combat assault support under day/night and adverse weather conditions and special operations support; supporting arms coordination and aeromedical evacuation. Major modifications for both aircraft include 168 AH-1Ws converted to AH-1Zs, build 58 new AH-1Zs, remanufacture ten (10) H-1N helicopters and build 113 new UH-1Y models. Upgrades include: a new 4-bladed, composite rotor system with semi-automatic blade fold, new performance matched transmissions, T700 Engine Digital Electronic Control Units (DECUs), new 4-bladed tail rotors and drive systems, more effective stabilizers, upgraded landing gear, tail pylon structural modifications, and common, fully integrated cockpits and avionics systems. These upgrades will add 10,000 flight hours to AH-1Z/UH-1Y airframes. The fully integrated cockpits will reduce operator workload and improve situational awareness, thus increasing safety and reducing the rate of aircraft attrition. They will provide considerable growth potential for future weapon systems and avionics, which will significantly increase mission effectiveness and survivability. The cockpits will also include integration of onboard mission planning, communications, digital fire control, self-navigation, night navigation/targeting, and weapon systems management in nearly identical crew stations, which significantly reduces training requirements. These upgrades maximize commonality between the two aircraft and provide needed improvements in crew and passenger survivability, payload, power available, endurance, range, airspeed, maneuverability and supportability.

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 32.694 | 60.498 | 71.512 | - | 71.512 |
| Current President's Budget | 31.332 | 60.498 | 72.569 | - | 72.569 |
| Total Adjustments | -1.362 | - | 1.057 | - | 1.057 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | -0.504 | - | | | |
| • SBIR/STTR Transfer | -0.753 | - | | | |
| • Program Adjustments | - | - | 1.563 | - | 1.563 |
| • Section 219 Reprogramming | -0.104 | - | - | - | - |
| • Rate/Misc Adjustments | - | - | -0.506 | - | -0.506 |
| • Congressional General Reductions Adjustments | -0.001 | - | - | - | - |

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy DATE: February 2011

| | |
|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604245N: <i>H-1 Upgrades</i> |
|---|--|

Change Summary Explanation

Technical: Not applicable.

Schedule: Updated the Software Configuration Set (SCS) schedule from PB2011 to PB2012 budget submits for SCS 6.0 through SCS 8.0 to more accurately represent the entire 2 to 3 year software cycle which includes the requirements definition, design, development, verification, validation, test & evaluation, and delivery phases.

Lot 5 - Changes from 2Q10 to 3Q10 for first aircraft (AC) delivery due to a 1-month slip in contract award.

Lot 6 - Changes from 4Q11 to 4Q12 for AC delivery completions due to late receipt and award of FY09 and FY10 OCO and Supplemental funding.

Lot 7 - Changes from 2Q10 to 3Q10 for contract award due to delays associated with AH-1Z Low Rate Initial Production Acquisition Decision Memorandum approval.

Lot 7 - Changes from 3Q12 to 3Q14 for AC delivery completions due to late receipt and award of FY09 and FY10 OCO and Supplemental funding.

Lot 8 - Changes from 1Q13 to 4Q12 for first AC delivery due to current AC deliveries slightly ahead of schedule.

Lot 8 - Changes from 4Q13 to 4Q14 for AC delivery completion,

Lot 9 - Changes from 1Q14 to 1Q15 for first AC delivery, and 1Q15 to 4Q15 for delivery completion due to HMLA force structure realignment as stated in the 2011 USMC Aviation Plan (AVPLAN).

The overall procurement objective of 349 AC remains the same.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | | | R-1 ITEM NOMENCLATURE | | | | PROJECT | | | | |
|---|---------|---------|----------------------------------|-------------|---------------|---------|------------------------------|---------|---------|------------------|------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | PE 0604245N: <i>H-1 Upgrades</i> | | | | 2279: <i>4BW/4BN Upgrade</i> | | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| 2279: <i>4BW/4BN Upgrade</i> | 31.332 | 60.498 | 72.569 | - | 72.569 | 28.060 | 44.711 | 47.537 | 48.297 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

The mission of the AH-1W attack helicopter is to provide rotary wing close air support, anti-armor, armed escort, armed/visual reconnaissance, survivability enhancements, and fire support coordination capabilities under day/night and adverse weather conditions. The mission of the UH-1N utility helicopter is to provide command and control and combat assault support under day/night and adverse weather conditions and special operations support; supporting arms coordination and aeromedical evacuation. Major modifications for both aircraft include 168 AH-1Ws converted to AH-1Zs, build 58 new AH-1Zs, remanufacture ten (10) H-1N helicopters and build 113 new UH-1Y models. Upgrades include: a new 4-bladed, composite rotor system with semi-automatic blade fold, new performance matched transmissions, T700 Engine Digital Electronic Control Units (DECUs), new 4-bladed tail rotors and drive systems, more effective stabilizers, upgraded landing gear, tail pylon structural modifications, and common, fully integrated cockpits and avionics systems. These upgrades will add 10,000 flight hours to AH-1Z/UH-1Y airframes. The fully integrated cockpits will reduce operator workload and improve situational awareness, thus increasing safety and reducing the rate of aircraft attrition. They will provide considerable growth potential for future weapon systems and avionics, which will significantly increase mission effectiveness and survivability. The cockpits will also include integration of onboard mission planning, communications, digital fire control, self-navigation, night navigation/targeting, and weapon systems management in nearly identical crew stations, which significantly reduces training requirements. These upgrades maximize commonality between the two aircraft and provide needed improvements in crew and passenger survivability, payload, power available, endurance, range, airspeed, maneuverability and supportability.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|--------------|-------------|---------------|
| Title: Product Development | 17.104 | 42.386 | 39.917 | - | 39.917 |
| Articles: | 0 | 0 | 0 | | 0 |
| FY 2010 Accomplishments: | | | | | |
| Completed contract for cuff and yoke analysis, main rotor gear box phase 2 analysis, and engineering analysis and reviewing proposal for testing to integrate Advanced Precision Kill Weapon System (APKWS) on the UH-1Y aircraft. Prime contractor is conducting product development efforts including survivability enhancements, weapons analysis, and fatigue analysis on air vehicle components. | | | | | |
| FY 2011 Plans: | | | | | |
| Funding is for tail rotor blade improvements, fuel system upgrades, main rotor gear box run dry analysis, avionics upgrades, digital map development, and development of a Hellfire Joint Air to Ground Missile (JAGM) | | | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604245N: <i>H-1 Upgrades</i> | PROJECT 2279: <i>4BW/4BN Upgrade</i> |
|---|--|--|

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|------------|------------|--------------|-------------|---------------|
| <p>Launcher for the H-1. Prime contractor will perform product development efforts including survivability enhancements, avionics upgrades, component testing, and fatigue testing.</p> <p>FY 2012 Base Plans: Development efforts for cuff & yoke redesign, tail rotor blade redesign study, main rotor gear box run dry analysis, avionics upgrades, digital map development, electronic publications development, and test and evaluation of a Target Sight System Digital Turret for the H-1. Prime contractor will perform product development efforts including survivability enhancements, cargo door redesign, avionics upgrades, air vehicle upgrades, and component fatigue testing.</p> | | | | | |
| <p>Title: Support Development</p> <p align="right">Articles:</p> <p>FY 2010 Accomplishments: Efforts completed include UH-1Y and AH-1Z software development and test to correct deficiencies from prior testing and allow incorporation of new weapons capabilities.</p> <p>FY 2011 Plans: Conduct AH-1Z phase III operational test results and conduct test to support additional Follow-on Operational Test and Evaluation (FOT&E).</p> <p>FY 2012 Base Plans: Cuff and Yoke support of redesign and development efforts.</p> | 5.991 0 | 3.462 0 | 1.000 0 | - | 1.000 0 |
| <p>Title: Test and Evaluation</p> <p align="right">Articles:</p> <p>FY 2010 Accomplishments: Conduct integrated test events supporting preparations for AH-1Z Operational Evaluation (OPEVAL) Phase III and conduct Phase III. Conduct verification of correction of deficiencies on UH-1Y. Conduct integrated test and the first FOT&E period for the UH-1Y to evaluate corrections of deficiencies discovered during OPEVAL Phase IIC2.</p> <p>FY 2011 Plans:</p> | 2.928 0 | 4.073 0 | 1.750 0 | - | 1.750 0 |

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604245N: <i>H-1 Upgrades</i> | PROJECT 2279: <i>4BW/4BN Upgrade</i> |

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Support integrated test of mission system enhancements and additional weapons capabilities, conduct FOT&E on both platforms. FY 2012 Base Plans: Support integrated mission system enhancements and weapons capabilities. Conduct integrated FOT&E on the AH-1Z to evaluate correction of deficiencies discovered during OPEVAL phase II-C-3. | | | | | |
| Title: Program Management Support Articles: | 2.159 0 | 2.626 0 | 3.819 0 | - | 3.819 0 |
| FY 2010 Accomplishments: Perform engineering analysis and technical support including risk analysis in support of development and operational test activities. FY 2011 Plans: Perform engineering analysis and technical support including risk analysis in support of development and operational test activities. FY 2012 Base Plans: Perform mission critical engineering and technical support including Cuff and Yoke analysis of technical data and review progress of development efforts. | | | | | |
| Title: Software Support Articles: | 3.150 0 | 7.951 0 | 26.083 0 | - | 26.083 0 |
| FY 2010 Accomplishments: Develop software solutions which correct deficiencies resulting from development and operational testing, technical data analysis, and system configuration set system development. FY 2011 Plans: Develop software solutions which correct deficiencies resulting from development and operational testing, technical data analysis, and system configuration set system development. FY 2012 Base Plans: | | | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604245N: <i>H-1 Upgrades</i> | PROJECT 2279: <i>4BW/4BN Upgrade</i> |
|---|--|--|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|---------|---------|-----------------|----------------|------------------|
| Continue developing software solutions to correct deficiencies as part of System Configuration Set (SCS) 7.0 including digital map, data loader, tactical data communications, Aircraft Flight Control System (AFCS) and weapons upgrades/fixes. | | | | | |
| Accomplishments/Planned Programs Subtotals | 31.332 | 60.498 | 72.569 | - | 72.569 |

C. Other Program Funding Summary (\$ in Millions)

| Line Item | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|---------|---------|-----------------|----------------|------------------|---------|---------|---------|---------|---------------------|------------|
| • APN/017800: <i>UH-1Y/AH-1Z</i> <i>APN-1</i> | 745.983 | 896.569 | 768.616 | 30.000 | 798.616 | 776.368 | 853.029 | 824.918 | 824.321 | 2,652.088 | 10,758.359 |

D. Acquisition Strategy

The USMC H-1 Upgrades is an ACAT 1D program which encompasses Engineering and Manufacturing Development of new end-items prior to a production approval decision. The prime contract is a sole source to Bell Helicopter Textron, Inc.

E. Performance Metrics

Cuff/Yoke Step 2 funds the portion of the Cuff/Yoke to address fatigue life projections; this is part of the overall redesign effort that strives to achieve a minimum 1500 hour fatigue life for cuff/yoke and increases in static strength to restore maneuverability performance to the UH-1Y.

Operational Evaluation phase IIC3 on the AH-1Z completed the 4th QTR of FY2010 to achieve a successful Milestone III Decision for the AH-1Z to proceed to Full Rate Production.

Complete design and development of H-1 System Configuration Set 6.0 (SCS-6.0) provides several upgrades to H-1 capabilities including: Navigation non-editable reference point data, Critical AFCS fixes, Aircraft Survivability Equipment (ASE) improvements, Joint Mission Planning System (JMPS) functionality, and critical Ground Proximity Warning system functionality to reduce incidents of Controlled Flight Into Terrain (CFIT). Conduct verification and validation lab, ground, and flight test of these functions with SCS-6.0 software. Conduct initial design and development efforts on H-1 SCS 7.0 including upgrades to capabilities: Data Loader; Digital Map; Tactical Digital Communication; Weapons Enhancements including JAGM and Advanced Precision Kill Weapon System (APKWS); and AFCS Maintenance Page which impacts the Mission Computer, Flight Control Computer, and Integrated Mechanical Diagnostic Health Usage Monitoring System (IMD HUMS).

Main Rotor Gear Box (MRGB) loss of lube prototype development and testing is an effort to meet the survivability requirement of 30-minutes of operation following a total loss of lubrication. The redesign, development, testing, qualification and deployment of the MRGB will allow the UH-1Y and AH-1Z to reduce their vulnerable area,

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | R-1 ITEM NOMENCLATURE | PROJECT |
|---|----------------------------------|------------------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | PE 0604245N: <i>H-1 Upgrades</i> | 2279: <i>4BW/4BN Upgrade</i> |

and greatly improve upon the current 17-minute limitation. This improvement will increase the survival rate of the aircrew and aircraft, thereby improving operational availability and effectiveness of the platform to deployed aircraft.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604245N: <i>H-1 Upgrades</i> | PROJECT 2279: <i>4BW/4BN Upgrade</i> |
|---|--|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|--|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Primary Hardware Development | SS/CPFF | BHTI:Amarillo, TX | 13.097 | 35.040 | Jan 2011 | 37.683 | Jan 2012 | - | | 37.683 | 56.393 | 142.213 | 142.213 |
| Primary Hardware Development | SS/CPFF | Lockheed Martin:Orlando, FL | - | 6.600 | Jan 2011 | - | | - | | - | 0.000 | 6.600 | 6.600 |
| Systems Engineering2 | WR | NAWCAD:Pax River, MD | 74.674 | - | | 2.144 | Nov 2011 | - | | 2.144 | 5.129 | 81.947 | |
| Prior year Cost no longer funded in the FYDP | Various | Various:Various | 1,134.280 | - | | - | | - | | - | 0.000 | 1,134.280 | 1,105.762 |
| Subtotal | | | 1,222.051 | 41.640 | | 39.827 | | - | | 39.827 | 61.522 | 1,365.040 | |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Development Support1 | WR | Various:Various | 2.797 | 1.200 | Dec 2010 | - | | - | | - | 0.000 | 3.997 | |
| Development Support2 | SS/CPFF | BHTI:Amarillo, TX | 14.487 | - | | 19.741 | Dec 2011 | - | | 19.741 | 74.259 | 108.487 | 108.487 |
| Software Development | WR | NAWCAD:Pax River, MD | 2.809 | 1.500 | Dec 2010 | - | | - | | - | 0.000 | 4.309 | |
| Software Development | WR | NAWCWD:China Lake, CA | 11.126 | 7.939 | Dec 2010 | 6.342 | Dec 2011 | - | | 6.342 | 25.665 | 51.072 | |
| Prior year costs no longer funded in FYDP | Various | Various:Various | 27.653 | - | | - | | - | | - | 0.000 | 27.653 | |
| Subtotal | | | 58.872 | 10.639 | | 26.083 | | - | | 26.083 | 99.924 | 195.518 | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Developmental Test and Evaluation | WR | NAWCAD:Pax River, MD | 38.250 | 1.250 | Nov 2010 | 1.000 | Nov 2011 | - | | 1.000 | 0.000 | 40.500 | |
| | WR | | 23.825 | 4.073 | Nov 2010 | 1.750 | Nov 2011 | - | | 1.750 | 3.000 | 32.648 | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604245N: <i>H-1 Upgrades</i> | PROJECT 2279: <i>4BW/4BN Upgrade</i> |
|---|--|--|

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Operational Test and Evaluation1 | | COMOPTEVFOR:Norfolk, VA | | | | | | | | | | | |
| Prior Year Cost no longer funded in FYDP | Various | Various:Various | 17.312 | - | | - | | - | | - | 0.000 | 17.312 | |
| Subtotal | | | 79.387 | 5.323 | | 2.750 | | - | | 2.750 | 3.000 | 90.460 | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Contractor Engineering Supt | C/FFP | Various:Various | 7.352 | 1.430 | Oct 2010 | 0.416 | Oct 2011 | - | | 0.416 | 1.680 | 10.878 | 10.878 |
| Program Management Supt | C/CPFF | Various:Various | 10.424 | 1.091 | Dec 2010 | 3.000 | Dec 2011 | - | | 3.000 | 0.000 | 14.515 | 14.515 |
| Travel | WR | Various:Various | 4.260 | 0.375 | Oct 2010 | 0.493 | Oct 2011 | - | | 0.493 | 2.576 | 7.704 | |
| Prior year costs no longer funded in FYDP | Various | Various:Various | 0.077 | - | | - | | - | | - | 0.000 | 0.077 | |
| Subtotal | | | 22.113 | 2.896 | | 3.909 | | - | | 3.909 | 4.256 | 33.174 | |

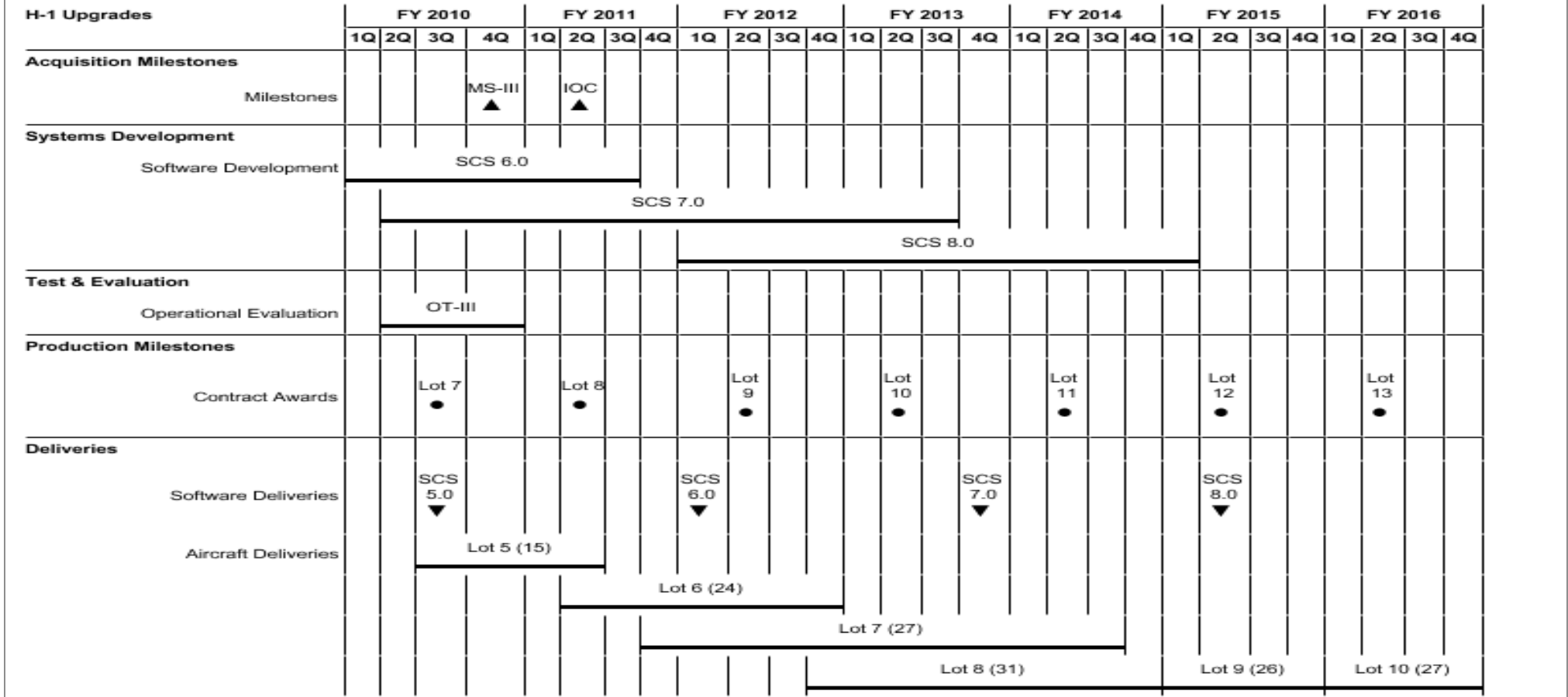
| | | | Total Prior Years Cost | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|--|--|------------------------|---------|--|--------------|--|-------------|--|---------------|------------------|------------|--------------------------|
| Project Cost Totals | | | 1,382.423 | 60.498 | | 72.569 | | - | | 72.569 | 168.702 | 1,684.192 | |

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604245N: <i>H-1 Upgrades</i> | PROJECT 2279: <i>4BW/4BN Upgrade</i> |
|---|--|--|



2012PB - 0604245N - 2279

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604245N: <i>H-1 Upgrades</i> | PROJECT 2279: <i>4BW/4BN Upgrade</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| H-1 Upgrades | | | | |
| Acquisition Milestones: Milestones: Full Rate Production (FRP) Milestone III AH-1Z | 4 | 2010 | 4 | 2010 |
| Acquisition Milestones: Milestones: IOC - AH-1Z | 2 | 2011 | 2 | 2011 |
| Systems Development: Software Development: SCS 6.0 Software Development | 1 | 2010 | 3 | 2011 |
| Systems Development: Software Development: SCS 7.0 Software Development | 2 | 2010 | 3 | 2013 |
| Systems Development: Software Development: SCS 8.0 Software Development | 1 | 2012 | 1 | 2015 |
| Test & Evaluation: Operational Evaluation: Operational Evaluation | 2 | 2010 | 4 | 2010 |
| Production Milestones: Contract Awards: Lot 7 | 3 | 2010 | 3 | 2010 |
| Production Milestones: Contract Awards: Lot 8 | 2 | 2011 | 2 | 2011 |
| Production Milestones: Contract Awards: Lot 9 | 2 | 2012 | 2 | 2012 |
| Production Milestones: Contract Awards: Lot 10 | 2 | 2013 | 2 | 2013 |
| Production Milestones: Contract Awards: Lot 11 | 2 | 2014 | 2 | 2014 |
| Production Milestones: Contract Awards: Lot 12 | 2 | 2015 | 2 | 2015 |
| Production Milestones: Contract Awards: Lot 13 | 2 | 2016 | 2 | 2016 |
| Deliveries: Software Deliveries: SCS 5.0 Software Deliveries | 3 | 2010 | 3 | 2010 |
| Deliveries: Software Deliveries: SCS 6.0 Software Deliveries | 1 | 2012 | 1 | 2012 |
| Deliveries: Software Deliveries: SCS 7.0 Software Deliveries | 4 | 2013 | 4 | 2013 |
| Deliveries: Software Deliveries: SCS 8.0 Software Deliveries | 2 | 2015 | 2 | 2015 |
| Deliveries: Aircraft Deliveries: Lot 5 FRP Y/LRIP Z | 3 | 2010 | 2 | 2011 |
| Deliveries: Aircraft Deliveries: Lot 6 FRP Y/LRIP Z | 2 | 2011 | 4 | 2012 |
| Deliveries: Aircraft Deliveries: Lot 7 FRP Y/LRIP Z | 4 | 2011 | 3 | 2014 |
| Deliveries: Aircraft Deliveries: Lot 8 FRP Y + Z | 4 | 2012 | 4 | 2014 |

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604245N: <i>H-1 Upgrades</i> | PROJECT 2279: <i>4BW/4BN Upgrade</i> |

| Events by Sub Project | Start | | End | |
|---|----------------|-------------|----------------|-------------|
| | Quarter | Year | Quarter | Year |
| Deliveries: Aircraft Deliveries: Lot 9 FRP Y + Z | 1 | 2015 | 4 | 2015 |
| Deliveries: Aircraft Deliveries: Lot 10 FRP Y + Z | 1 | 2016 | 4 | 2016 |

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | | | R-1 ITEM NOMENCLATURE | | | | | | | | |
|---|----------------|----------------|---|--------------------|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | PE 0604261N: <i>Acoustic Search Sensors</i> | | | | | | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| Total Program Element | 53.913 | 64.834 | 56.509 | - | 56.509 | 22.577 | 17.323 | 14.099 | 14.361 | Continuing | Continuing |
| 0480: <i>ASW Sensors & Proc</i> | 39.722 | 31.412 | 23.906 | - | 23.906 | 10.944 | 14.077 | 14.099 | 14.361 | Continuing | Continuing |
| 3224: <i>High Altitude ASW</i> | 14.191 | 33.422 | 32.603 | - | 32.603 | 11.633 | 3.246 | - | - | 0.000 | 95.095 |

A. Mission Description and Budget Item Justification

Includes RDT&E funds for engineering development and operational test and evaluation of acoustic search sensors and complementary equipment for Anti Submarine Warfare (ASW) aircraft.

Excludes civilian and military manpower and their related costs and military construction costs which are included in appropriate management and support elements in this program.

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 56.086 | 64.834 | 57.853 | - | 57.853 |
| Current President's Budget | 53.913 | 64.834 | 56.509 | - | 56.509 |
| Total Adjustments | -2.173 | - | -1.344 | - | -1.344 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | -0.650 | - | | | |
| • SBIR/STTR Transfer | -1.006 | - | | | |
| • Program Adjustments | -0.001 | - | -0.683 | - | -0.683 |
| • Section 219 Reprogramming | -0.495 | - | - | - | - |
| • Rate/Misc Adjustments | - | - | -0.661 | - | -0.661 |
| • Congressional General Reductions Adjustments | -0.021 | - | - | - | - |

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

UNCLASSIFIED

| | |
|---|----------------------------|
| Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy | DATE: February 2011 |
|---|----------------------------|

| | |
|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604261N: <i>Acoustic Search Sensors</i> |
|---|---|

H0480. Multi-Static Active Coherent (Schedule 1). Updated Engineering Developmental Model (EDM) delivery to reflect a schedule bar from 2Q/10 thru 2Q/11 due to the fact that the contract delivery schedule provides for delivery over a one year period.

H0480. Multi-Static Active Coherent (Schedule 2). Moved Advanced Processing Build (APB)(2) Fleet Release from 1Q/11 to 1Q/12, APB(2) S/W Release from 4Q/10 to 4Q/11, APB(2) Software Qualification Test (SQT) from 2Q/10 to 2Q/11 due to a one year Platform Hardware Procurement delay. Continuous System Development effort added from 1Q/10 thru 4Q/16 to show prior development test and subsequent Fleet release. Due to the various funding reductions we have received for OSD12, moved APB (2) Fleet Release from 1Q/12 to 1Q/13.

H3224. High Altitude ASW. HAASW is a FY10 new start program. The preliminary findings of the Effectiveness and suitability, the first phase of the Analysis of Alternatives, have led to a maturation of the acquisition strategy. As part of the maturing acquisition approach, several components are integrated together and the acquisition milestones were adjusted accordingly.

Deleted "Dropsonde and MPT" from schedule. Dropsonde will be included with GPS and Digital Uplink to form the "HAASW" program. Due to the new requirements of the DODINST 5000.02, dtd Dec 2008, an Material Development Decision (MDD) and Milestone (MS)-A were added to the acquisition plan. MS-A was added in 4Q/10. Moved MS-B from 3Q/10 to 1Q/12 in order to accomplish the necessary acquisition processes and Technology Development phase. Moved Dropsonde MS-C from 4Q/14 and GPS/Digital Uplink from 2Q/14 to 1Q/14 due to program maturity which has allowed better planning accuracy. Moved Dropsonde FRP from 4Q/14 to 2Q/15 in order to account for required testing. Added PDR in 3Q/11 and CDR in 2Q/12 for completeness of schedule. Removed OA from 2Q/13. Moved GPS/Uplink Sonobuoy Mod contract from 3Q/10 to 1Q/11 to properly align it occurring after MS-A approval. Combined GPS/Uplink Sonobuoy Mod Production contract awards from 3Q/14 into the LRIP award in 1Q/14. "Integrated testing" includes all required testing during FY12 and FY13. Added IOT&E to 4Q/14 thru 1Q/15 due to it being a required test period and was added for completeness. Moved Dropsonde LRIP from 2Q/13 to 1Q/14 as LRIP must occur after MS-C. Current estimates are that LRIP systems will begin delivery in 4Q/14, therefore, moved LRIP delivery from 4Q/15 to 4Q/14. Moved FY11 buoy delivery from 3Q/11 to 4Q/11. Moved FY12 buoy delivery from 2Q/12 to 3Q/12. Moved FY13 buoy delivery from 1Q/13 to 2Q/13. Buoy deliveries are updated to reflect the new schedule driven by 5000.02 requirements and greater planning accuracy. Dropsonde LRIP 2Q/13 and Dropsonde FRP 4Q/14 are replaced with LRIP award 1Q/14.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604261N: <i>Acoustic Search Sensors</i> | PROJECT 0480: <i>ASW Sensors & Proc</i> |
|---|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|-------------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 0480: <i>ASW Sensors & Proc</i> | 39.722 | 31.412 | 23.906 | - | 23.906 | 10.944 | 14.077 | 14.099 | 14.361 | Continuing | Continuing |
| Quantity of RDT&E Articles | 1000 | 0 | 500 | 0 | 500 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

The Anti-Submarine Warfare (ASW) Sensors and Processing project provides the tools and methods necessary to maintain naval superiority by preventing threat submarines from disrupting the U.S. Navy's ability to control the sea lines of communication and completing their hostile missions. This project encompasses the Engineering & Manufacturing Development (EMD) phase and the follow on increments of sensor systems to improve the mission effectiveness of airborne ASW platforms in cueing, searching, localizing, tracking, and attacking subsurface targets. Smaller and quieter threat submarines drive the requirement for continued advancement in ASW sensor capabilities for both blue water and littoral environments. The littoral regions of the world create an additional ASW challenge to overcome the increase in background clutter caused by the shallow water depth, high volume of shipping, and commercial radio frequency interference. Project 0480 provides funding to the Extended Echo Ranging family of multi-static active ASW systems for the engineering development of solutions that detect, classify, and track threat submarines. Multi-static Active Coherent (MAC) and Advanced Processing Builds (APB) are efforts funded during the period identified. The MAC program, which started in FY08, encompasses the development of an active coherent (electronic) source sonobuoy, modifications to the existing Air Deployable Active Receiver sonobuoy, development, integration, and test of aircraft avionics software and MAC system. It also provides upgrades to the Multi-static mission planning tool, the Tactical Operational Readiness Trainer and the Tactical Ground Replay System. MAC provides a large area search capability in all water environments and will eliminate current impulsive source safety, training, and Rules of Engagement restrictions. Project 0480 also provides funding for the APB program which provides software enhancements for signal processing improvements, clutter reduction, automation, improved displays and controls, as well as improved communication links for reduced operator workload resulting in increased target detection and classification capabilities and interoperability. APB also includes an Air ASW Engineering Measurement Program that collects ASW system data and identifies areas where beneficial improvements can be made and provides common software and hardware solutions across all Air ASW platforms. The 1500 sonobuoy test articles in FY10/12 will support software and hardware integration flight tests and Technical Evaluation/Operational Evaluation for MAC Increment I and Increment II respectively.

Also included in this project is funding to conduct testing for safe carriage and release to obtain P-3 flight certification of the Acoustic to Radio Frequency (A2RF) Air variant communications buoy in support of the PMW-770 Communications at Speed and Depth program for underwater communications with a submerged submarine.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| Title: Complete Advanced Processing Builds (APB) SQT/Fleet Release | 7.670 | 1.579 | 1.433 |
| Articles: | 0 | 0 | 0 |
| FY 2010 Accomplishments: | | | |

UNCLASSIFIED

| | | | | |
|---|---|---|----------------|----------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604261N: <i>Acoustic Search Sensors</i> | PROJECT 0480: <i>ASW Sensors & Proc</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| <p>Provided APB funds for software development, integration, and test for Multi-Static ASW (MSA) sensor systems. Provides P-3C and P-8A platform integration of multi-static technology improvements allowing increased weapon system efficiency and decreased fleet operator workload in the littoral ASW mission.</p> <p>FY 2011 Plans: Provides APB funds for software development, integration, and test for MSA sensor systems. Provides P-3C and P-8A platform integration of multi-static technology improvements allowing increased weapon system efficiency and decreased fleet operator workload in the littoral ASW mission.</p> <p>FY 2012 Plans: Provides APB funds for software development, integration, and test for MSA sensor systems. Provides P-3C and P-8A platform integration of multi-static technology improvements allowing increased weapon system efficiency and decreased fleet operator workload in the littoral ASW mission.</p> | | | | |
| <p>Title: Multi-static Active Coherent (MAC) Increment I</p> <p align="right">Articles:</p> <p>FY 2010 Accomplishments: Developed/tested a MAC coherent source and related software that will satisfy the large area search requirement in the harsh, shallow water littorals.</p> <p>FY 2011 Plans: Continue to develop/test a MAC coherent source and related software that will satisfy the large area search requirement in the harsh, shallow water littorals.</p> <p>FY 2012 Plans: Continue to develop/test a MAC coherent source and related software that will satisfy the large area search requirement in the harsh, shallow water littorals.</p> | | 29.052 1000 | 29.833 0 | 22.473 500 |
| <p>Title: Comms at Speed and Depth/At-Sea Test support</p> <p align="right">Articles:</p> <p>FY 2010 Accomplishments: P-3 flight certification for safe carriage and release of A2RF buoy.</p> | | 3.000 0 | - | - |
| Accomplishments/Planned Programs Subtotals | | 39.722 | 31.412 | 23.906 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604261N: <i>Acoustic Search Sensors</i> | PROJECT 0480: <i>ASW Sensors & Proc</i> |
|---|---|---|

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> <u>Base</u> | <u>FY 2012</u> <u>OCO</u> | <u>FY 2012</u> <u>Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
|--|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| • OPN/4048: <i>Sonobuoys - All Types</i> | 0.000 | 8.453 | 11.850 | 0.000 | 11.850 | 6.546 | 26.013 | 29.743 | 30.098 | Continuing | Continuing |

D. Acquisition Strategy

The development and integration of MAC using coherent source technology into the P-3C Aircraft. Sole source contracts have been awarded for Sensor Development (ERAPSCO) and for Displays and Control and Integration on P-3C aircraft (Lockheed Martin, Manassas).

E. Performance Metrics

Continued development/test of a MAC coherent source and related software that will satisfy the large area search requirement in the harsh, shallow water littorals.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604261N: <i>Acoustic Search Sensors</i> | PROJECT 0480: <i>ASW Sensors & Proc</i> |
|---|---|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Primary Hdw Development | Various | VARIOUS:VARIOUS | 18.505 | - | Oct 2010 | 1.400 | Oct 2011 | - | | 1.400 | 6.850 | 26.755 | 26.755 |
| Primary Hdw Development | SS/CPIF | ERAPSCO:FT. WAYNE IN | - | 3.350 | Oct 2010 | 3.350 | Oct 2011 | - | | 3.350 | 0.000 | 6.700 | 6.700 |
| Subtotal | | | 18.505 | 3.350 | | 4.750 | | - | | 4.750 | 6.850 | 33.455 | 33.455 |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|-------------------------------------|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Software Development (Increment II) | WR | NAWCAD:PATUXENT RIVER, MD | 14.747 | 4.457 | Oct 2010 | 1.000 | Oct 2011 | - | | 1.000 | 9.026 | 29.230 | |
| Software Development (Increment II) | SS/CPIF | LOCKHEED MARTIN:MANASSAS VA | - | 3.000 | Oct 2010 | 3.000 | Oct 2011 | - | | 3.000 | 3.000 | 9.000 | 9.000 |
| Software Development (Increment II) | Various | VARIOUS:VARIOUS | 7.302 | 0.500 | Oct 2010 | 0.529 | Oct 2011 | - | | 0.529 | 1.250 | 9.581 | 9.581 |
| Studies & Analysis | WR | NAWCAD:PATUXENT RIVER, MD | 9.840 | 2.500 | Oct 2010 | 1.000 | Oct 2011 | - | | 1.000 | 0.000 | 13.340 | |
| Technical Data | WR | NAWCAD:PATUXENT RIVER, MD | 13.559 | 1.800 | Oct 2010 | - | | - | | - | 5.750 | 21.109 | |
| Subtotal | | | 45.448 | 12.257 | | 5.529 | | - | | 5.529 | 19.026 | 82.260 | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Dev Test & Eval | WR | NAWCAD:PATUXENT RIVER, MD | 14.700 | 3.000 | Nov 2010 | 2.000 | Nov 2011 | - | | 2.000 | 6.300 | 26.000 | |
| Subtotal | | | 14.700 | 3.000 | | 2.000 | | - | | 2.000 | 6.300 | 26.000 | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604261N: <i>Acoustic Search Sensors</i> | PROJECT 0480: <i>ASW Sensors & Proc</i> |
|---|---|---|

| Proj: 0480 ASW Sensors & Processors | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|-------------------------------------|----------|----|--|----|----------------|----|----|--------------|---------------|----|----|----|---------|----|------------------------------------|----|---------|----|----|----|---------------|----|----|----|---------|----|----|----|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q |
| Acquisition Milestones | | | | | MS C ▲ | | | | | | | | | | | | | | | | | | | | | | | |
| System Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hardware Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EDM Delivery | | | H/W EDM (Inc 1) | | | | | | | | | | | | | | | | | | | | | | | | | |
| Software Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Software Integration Delivery | | | Integration S/W Delivery (Inc 1) ▼ | | | | | | | | | | | | Integration S/W Delivery (Inc 2) ▼ | | | | | | | | | | | | | |
| Reviews | CDR ■ | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test & Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Technical Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Development Test | | | Commence S/W and H/W Integrated Fit test (Inc 1) ▼ | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operational Evaluation | | | | | | | | OT (Inc 1) ▼ | | | | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contract Awards | | | | | LRIP (Inc 1) ● | | | | FRP (Inc 1) ● | | | | | | | | | | | | FRP (Inc 2) ● | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604261N - 0480 Updated EDM delivery to reflect a schedule bar from 2Q/10 thru 2Q/11 due to the fact that the contract delivery schedule provides for delivery over a one year period. MAC is a spiral upgrade development effort that commenced in 1Q/08 consisting of two incremental builds. Increment 1 is to develop & produce a Coherent Source buoy to provide a multi-static active large area search capability in shallow water environments. Increment 2 will increase the source level & provide a large area search capability in all environments.

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604261N: <i>Acoustic Search Sensors</i> | PROJECT 0480: <i>ASW Sensors & Proc</i> |

| | | |
|--|--|--|
| | | |
|--|--|--|

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY
 1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE
 PE 0604261N: *Acoustic Search Sensors*

PROJECT
 0480: *ASW Sensors & Proc*

| Proj: 0480 ASW Sensors & Processors - Advanced Processing Builds (APB) | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|--|---------|----|----|----|---------|----|----|----|---------|----|----|----|-------------------------------|----|----|----|---------|----|----|----|---------|-------------------------------|----|----|---------|----|----|----|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Milestones | | | | | | | | | | | | | APB (2) Fit Rel ▼ | | | | | | | | | APB (3) Fit Rel ▼ | | | | | | |
| System Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Software Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test & Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Technical Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy DATE: February 2011

| APPROPRIATION/BUDGET ACTIVITY | R-1 ITEM NOMENCLATURE | PROJECT |
|---|---|-------------------------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | PE 0604261N: <i>Acoustic Search Sensors</i> | 0480: <i>ASW Sensors & Proc</i> |

2012PB - 0604261N - 0480 NAV12 budget: Moved APB (2) Fleet release from 1Q/11 to 1Q/12, APB (2) S/W release from 4Q/10 to 4Q/11, APB (2) SQT from 2Q/10 to 2Q/11 due to a one year Platform Hardware Procurement delay. Continuous System Development effort added from 1Q/10 thru 4Q/15 to show prior development test & subsequent Fleet release. PR11 offset reductions results in no APB Development test or releases in FY12 or FY13. However, due to Platform H/W delays APB (2) Fleet releases will no occur in FY12. OSD12 budget: Due to various funding reductions we have received from OSD12, moved APB (2) Fleet release from 1Q/12 to 1Q/13.

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604261N: <i>Acoustic Search Sensors</i> | PROJECT 0480: <i>ASW Sensors & Proc</i> |
|---|---|---|

| Proj: 0480 ASW Sensors & Processors - Accoustic to Radio Frequency Variant (A2RF) | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|---|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| System Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Software Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reviews | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test & Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A2RF - Air | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| P-3 Air Certification Testing for A2RF | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| A2RF Air Certification for P-3 ▼ | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Flight support for CSD-A2RF At-Sea test | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Technical Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operational Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contract Awards | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604261N - 0480 A2RF-Air Variant flight certification & support during At-Sea test.

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604261N: <i>Acoustic Search Sensors</i> | PROJECT 0480: <i>ASW Sensors & Proc</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj: 0480 ASW Sensors & Processors | | | | |
| Acquisition Milestones: Milestones: Milestone C | 1 | 2011 | 1 | 2011 |
| System Development: EDM Delivery: Eng Dev Model (H/W EDM) Increment 1 | 2 | 2010 | 2 | 2011 |
| System Development: EDM Delivery: Eng Dev Model (H/W EDM) Increment 2 | 2 | 2013 | 2 | 2013 |
| System Development: Software Integration Delivery: Integration Software Delivery Increment 1 | 3 | 2010 | 3 | 2010 |
| System Development: Software Integration Delivery: Integration Software Delivery Increment 2 | 3 | 2013 | 3 | 2013 |
| System Development: Reviews: Critical Design Review (CDR) Increment 1 | 1 | 2010 | 1 | 2010 |
| Test & Evaluation: Development Test: Commence S/W and H/W Integrated Flt test (Inc 1) | 3 | 2010 | 3 | 2010 |
| Test & Evaluation: Operational Evaluation: OT (Inc 1) | 2 | 2011 | 2 | 2011 |
| Test & Evaluation: Operational Evaluation: Commence FOT&E (Inc 2) | 4 | 2013 | 4 | 2013 |
| Production Milestones: Contract Awards: Low Rate Initial Production (LRIP) Inc 1 | 1 | 2011 | 1 | 2011 |
| Production Milestones: Contract Awards: Full Rate Production (FRP) Increment 1 | 1 | 2012 | 1 | 2012 |
| Production Milestones: Contract Awards: Full Rate Production (FRP) Increment 2 | 1 | 2015 | 1 | 2015 |
| Proj: 0480 ASW Sensors & Processors - Advanced Processing Builds (APB) | | | | |
| Acquisition Milestones: Milestones: APB (2) Fleet Release | 1 | 2013 | 1 | 2013 |
| Acquisition Milestones: Milestones: APB (3) Fleet Release | 1 | 2015 | 1 | 2015 |
| System Development: Software Development: System Development | 1 | 2010 | 4 | 2016 |
| System Development: Software Development: APB (2) Software Release | 4 | 2011 | 4 | 2011 |
| System Development: Software Development: APB (3) Software Release | 4 | 2014 | 4 | 2014 |
| Test & Evaluation: Technical Evaluation: APB (2) SQT | 2 | 2011 | 2 | 2011 |

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604261N: <i>Acoustic Search Sensors</i> | PROJECT 0480: <i>ASW Sensors & Proc</i> |

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Test & Evaluation: Technical Evaluation: APB (3) SQT | 2 | 2014 | 2 | 2014 |
| <i>Proj: 0480 ASW Sensors & Processors - Accoustic to Radio Frequency Variant (A2RF)</i> | | | | |
| Test & Evaluation: A2RF - Air: P-3 Air Certification Testing for A2RF | 2 | 2010 | 3 | 2010 |
| Test & Evaluation: A2RF - Air: A2RF Air Certification for P-3 | 3 | 2010 | 3 | 2010 |
| Test & Evaluation: A2RF - Air: Flight support for CSD-A2RF At-Sea test | 3 | 2010 | 4 | 2010 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | R-1 ITEM NOMENCLATURE PE 0604261N: <i>Acoustic Search Sensors</i> | | | | PROJECT 3224: <i>High Altitude ASW</i> | | | |
|---|----------------|----------------|---------------------|---|----------------------|----------------|----------------|--|----------------|-------------------------|-------------------|
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| 3224: <i>High Altitude ASW</i> | 14.191 | 33.422 | 32.603 | - | 32.603 | 11.633 | 3.246 | - | - | 0.000 | 95.095 |
| Quantity of RDT&E Articles | 0 | 200 | 450 | 0 | 450 | 450 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

The P-8A High Altitude Anti-Submarine Warfare (HAASW) program objective is to ensure greater Anti-Submarine Warfare (ASW) aircraft operational flexibility and effectiveness at high altitudes. FY10-FY14 R&D monies fund necessary engineering changes to ASW sonobuoys, in addition to developing and integrating a meteorological sensing device (Dropsonde). Sonobuoys will be modified with a Global Positioning System (GPS) and a NATO standard Digital Uplink. GPS integration will provide precise sonobuoy location regardless of aircraft altitude/location to enhance wide area ASW search, localization, tracking, and targeting. The Digital Uplink will improve sonobuoy communications performance in high Radio Frequency Interference (RFI) littoral environments, increase Air Deployable Active Receiver channel availability, and provide NATO compatibility. The Dropsonde provides the capability to conduct in-situ meteorological (temperature, pressure, humidity, and winds) data measurement. The P-8A will use this real time data to update tactical decision aids, refine sonobuoy "release points", and for in-flight mission planning for optimization of Radar, Electro-Optical, Infra-Red, and other non-acoustic sensors. The FY11 test article quantities reflect 200 sonobuoys/dropsondes. Reduced test article quantities to reflect a more realistic schedule.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|---|----------------|----------------|----------------|
| Title: Provide precision delivery of sonobuoys | 14.191 | 33.422 | 32.603 |
| Articles: | 0 | 200 | 450 |
| FY 2010 Accomplishments: | | | |
| HAASW is an FY10 new start. The program supported engineering changes to sonobuoys employed during all stages of the ASW kill chain, from wide area search to attack. Efforts also included Dropsonde development/integration and the GPS and Dropsonde in-situ meteorological data for tactical decision aids and mission planning. FY10/11 is for HAASW Requirements Development, technology development and prototyping. Reduced test articles to reflect a more realistic schedule. The test schedule and test article deliveries are aligned with Integrated Test. | | | |
| FY 2011 Plans: | | | |
| The program will support engineering changes to sonobuoys employed during all stages of the ASW kill chain, from wide area search to attack. Efforts also include Dropsonde development/integration and the GPS and Dropsonde in-situ meteorological data for tactical decision aids and mission planning. FY10/11 is for HAASW Requirements Development, technology development and prototyping. The test schedule and test article deliveries are aligned with Integrated Test. | | | |
| FY 2012 Plans: | | | |
| The program will support engineering changes to sonobuoys employed during all stages of the ASW kill chain, from wide area search to attack. Efforts also include Dropsonde development/integration and the GPS and Dropsonde in-situ meteorological data | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604261N: <i>Acoustic Search Sensors</i> | PROJECT 3224: <i>High Altitude ASW</i> |
|---|---|--|

| | | | |
|---|----------------|----------------|----------------|
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
| for tactical decision aids and mission planning. FY10/11 is for HAASW Requirements Development, technology development and prototyping. The test schedule and test article deliveries are aligned with Integrated Test. | | | |
| Accomplishments/Planned Programs Subtotals | 14.191 | 33.422 | 32.603 |

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> <u>Base</u> | <u>FY 2012</u> <u>OCO</u> | <u>FY 2012</u> <u>Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
|--|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| • OPN/4048: <i>Sonobuoys - All Types</i> | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.752 | 3.348 | 2.722 | 4.120 | Continuing | Continuing |

D. Acquisition Strategy

HAASW acquisition strategy includes three varied contract approaches. A sole source contract will be awarded for sonobuoy GPS and Digital Uplink engineering changes. Dropsonde meteorological sensing device development and integration will be open competition. The P-8A software development for the GPS and Digital Uplink signal processing and for the Dropsonde meta data in the tactical decision aids and the in-flight mission planning tools will be performed by the P-8A prime integrator.

E. Performance Metrics

Support engineering changes to sonobuoys during all stages of the ASW kill chain, from wide area search to attack.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604261N: <i>Acoustic Search Sensors</i> | PROJECT 3224: <i>High Altitude ASW</i> |
|---|---|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Primary Hdw Development | Various | VARIOUS:VARIOUS | 1.000 | 4.009 | Nov 2010 | 0.376 | Nov 2011 | - | | 0.376 | 5.000 | 10.385 | 10.385 |
| Primary Hdw Development | SS/CPHF | ERAPSCO:FT. WAYNE IN | 3.000 | 15.000 | Nov 2010 | 15.000 | Nov 2011 | - | | 15.000 | 0.000 | 33.000 | 33.000 |
| Subtotal | | | 4.000 | 19.009 | | 15.376 | | - | | 15.376 | 5.000 | 43.385 | 43.385 |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Program Documentation | Various | VARIOUS:VARIOUS | - | 0.450 | Nov 2010 | 0.500 | Nov 2011 | - | | 0.500 | 0.500 | 1.450 | 1.450 |
| Studies & Analysis | Various | VARIOUS:VARIOUS | 0.192 | 0.200 | Nov 2010 | - | | - | | - | 0.200 | 0.592 | 0.592 |
| A/C Software Integration | Various | VARIOUS:VARIOUS | 1.000 | 2.119 | Nov 2010 | - | | - | | - | 3.000 | 6.119 | 6.119 |
| Tech Data | WR | NAWCAD:PATUXENT RIVER, MD | - | 0.100 | Nov 2010 | - | | - | | - | 0.450 | 0.550 | |
| A/C Software Integration | C/CPFF | BOEING:SEATTLE WA | - | 9.000 | Nov 2010 | 8.000 | Nov 2011 | - | | 8.000 | 0.000 | 17.000 | 17.000 |
| Subtotal | | | 1.192 | 11.869 | | 8.500 | | - | | 8.500 | 4.150 | 25.711 | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Dev Test & Eval | Various | VARIOUS:VARIOUS | 0.100 | 0.350 | Nov 2010 | 0.500 | Nov 2011 | - | | 0.500 | 3.000 | 3.950 | 3.950 |
| Subtotal | | | 0.100 | 0.350 | | 0.500 | | - | | 0.500 | 3.000 | 3.950 | 3.950 |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Contractor Eng Spt | Various | VARIOUS:VARIOUS | 0.500 | 0.500 | Oct 2010 | 0.946 | Oct 2011 | - | | 0.946 | 0.475 | 2.421 | 2.421 |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY
 1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE
 PE 0604261N: *Acoustic Search Sensors*

PROJECT
 3224: *High Altitude ASW*

| Proj: 3224 High Altitude ASW | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | | | | |
|---|---------|----|-----------------------------|----|---------|----|-------|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|--|--|--|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | | | |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Milestones | | | MS A ▲ | | | | | | MS B ▲ | | | | | | | | MS C ▲ | | | | | | | | | | | | | | |
| System Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hardware Development | | | Hardware System Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Software Development | | | MPT S/W + A/C Integration | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reviews | | | | | | | PDR ■ | | | | | | CDR ■ | | | | | | | | | | | | | | | | | | |
| Test & Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Technical Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operational Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contract Awards | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sonobuoy GPS/Digital Uplink Test Article Delivery | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Dropsonde Test Article Delivery | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LRIP Delivery | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604261N - 3224 Added PDR in 3Q/11. Moved GPS/Uplink Sonobuoy Mod contract from 3Q/10 to 1Q/11 to properly align it occurring after MS-A approval. Moved FY11 buoy delivery from 3Q/11 to 4Q/11.

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604261N: <i>Acoustic Search Sensors</i> | PROJECT 3224: <i>High Altitude ASW</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj: 3224 High Altitude ASW | | | | |
| Acquisition Milestones: Milestones: Milestone A | 4 | 2010 | 4 | 2010 |
| Acquisition Milestones: Milestones: Milestone B | 1 | 2012 | 1 | 2012 |
| Acquisition Milestones: Milestones: Milestone C | 1 | 2014 | 1 | 2014 |
| Acquisition Milestones: Milestones: Full Rate Production | 2 | 2015 | 2 | 2015 |
| System Development: Hardware Development: Hardware System Development | 4 | 2010 | 3 | 2013 |
| System Development: Software Development: Aircraft Software Development/ Integration | 1 | 2011 | 1 | 2014 |
| System Development: Reviews: PDR | 3 | 2011 | 3 | 2011 |
| System Development: Reviews: CDR | 2 | 2012 | 2 | 2012 |
| Test & Evaluation: Technical Evaluation: Integrated Testing | 1 | 2012 | 1 | 2014 |
| Test & Evaluation: Operational Evaluation: P-8A FOT&E | 2 | 2014 | 3 | 2014 |
| Test & Evaluation: Operational Evaluation: IOT&E | 4 | 2014 | 1 | 2015 |
| Production Milestones: Contract Awards: Hardware Contract Award | 1 | 2011 | 1 | 2011 |
| Production Milestones: Contract Awards: GPS/Uplink Sonobuoy Modification Contract | 1 | 2011 | 1 | 2011 |
| Production Milestones: Contract Awards: LRIP Award | 1 | 2014 | 1 | 2014 |
| Deliveries: Sonobuoy GPS/Digital Uplink Test Article Delivery: Sonobuoy GPS/Digital Uplink Test Article Delivery 1 | 4 | 2011 | 4 | 2011 |
| Deliveries: Sonobuoy GPS/Digital Uplink Test Article Delivery: Sonobuoy GPS/Digital Uplink Test Article Delivery 2 | 3 | 2012 | 3 | 2012 |
| Deliveries: Sonobuoy GPS/Digital Uplink Test Article Delivery: Sonobuoy GPS/Digital Uplink Test Article Delivery 3 | 2 | 2013 | 2 | 2013 |
| Deliveries: Dropsonde Test Article Delivery: Delivery (1) | 4 | 2011 | 4 | 2011 |

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604261N: <i>Acoustic Search Sensors</i> | PROJECT 3224: <i>High Altitude ASW</i> |

| Events by Sub Project | Start | | End | |
|---|----------------|-------------|----------------|-------------|
| | Quarter | Year | Quarter | Year |
| Deliveries: Dropsonde Test Article Delivery: Delivery (2) | 2 | 2012 | 2 | 2012 |
| Deliveries: Dropsonde Test Article Delivery: Delivery (3) | 1 | 2013 | 1 | 2013 |
| Deliveries: LRIP Delivery: LRIP | 4 | 2014 | 4 | 2014 |

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | | | | R-1 ITEM NOMENCLATURE | | | | | | | |
|---|----------------|----------------|---------------------|------------------------------|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> | | | | PE 0604262N: V-22A | | | | | | | |
| BA 5: <i>Development & Demonstration (SDD)</i> | | | | | | | | | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| Total Program Element | 78.866 | 46.070 | 84.477 | - | 84.477 | 64.982 | 36.685 | 51.603 | 53.043 | Continuing | Continuing |
| 1425: V-22 | 78.866 | 46.070 | 84.477 | - | 84.477 | 64.982 | 36.685 | 51.603 | 53.043 | Continuing | Continuing |

A. Mission Description and Budget Item Justification

The V-22 Osprey is an Acquisition Category ID Joint Program led by the Department of the Navy for the purpose of developing, testing, evaluating, procuring and fielding a tilt rotor, vertical takeoff and landing aircraft for Joint Service application. The V-22 program is designed to provide an aircraft to meet the amphibious/vertical assault needs of the Marine Corps, the strike rescue needs of the Navy, and the special operations needs of the Air Force and the United States Special Operations Command (USSOCOM). The V-22 is replacing the CH-46E and CH53A/D in the Marine Corps with the MV-22; will supplement the H-60 in the Navy with the HV-22; and replace the MH-53J and MH-53M as well as augment the C-130 in the Air Force and USSOCOM with the CV-22. The V-22 is capable of flying over 2100 nautical miles with a single refueling, giving the services the advantage of a Vertical/Short Take-off and Landing aircraft that can rapidly self-deploy to any location in the world. This program is funded under Engineering Manufacturing and Development for correction of deficiencies and includes Block A and Block B upgrades which encompassed engineering and manufacturing development of new end-items prior to the production incorporation decision. Block C suitability and effectiveness development upgrades began in FY06 and continue through FY12. Overseas Contingency Operations (OCO) funding provided in FY10 was for the development of the Main Landing Gear Bay Fire Suppression system. Funding in FY11 addressed Capability Development Document (CDD) interoperability requirements through a spiral upgrade acquisition strategy. These funds were the first spiral providing Key Enabling Department of Defense mandated open systems architecture upgrades for the mission computer hardware and software while simultaneously addressing required interoperability common avionics upgrades and current avionics obsolescence issues. Development efforts include Block C Upgrade, Mission System Upgrade, Mid-Wing Process Unit, and ARC 210 Generation 5 Radio. FY12 funding initiates instrumentation of a test aircraft.

Basis for FY2010 OCO Supplemental Budget Request: \$1,645K was for increased fuel costs.

UNCLASSIFIED

| | |
|---|----------------------------|
| Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy | DATE: February 2011 |
|---|----------------------------|

| | |
|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604262N: V-22A |
|---|--|

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 76.693 | 46.070 | 42.849 | - | 42.849 |
| Current President's Budget | 78.866 | 46.070 | 84.477 | - | 84.477 |
| Total Adjustments | 2.173 | - | 41.628 | - | 41.628 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | 3.132 | - | | | |
| • SBIR/STTR Transfer | -2.426 | - | | | |
| • Program Adjustments | 1.645 | - | 42.177 | - | 42.177 |
| • Section 219 Reprogramming | -0.176 | - | - | - | - |
| • Rate/Misc Adjustments | - | - | -0.549 | - | -0.549 |
| • Congressional General Reductions Adjustments | -0.002 | - | - | - | - |

Change Summary Explanation

Technical: Not applicable

Schedule: Added Operational Test Readiness Review (OTRR) events to sync with Program Office master test schedules.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|------------------------------|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604262N: V-22A | PROJECT 1425: V-22 |
|---|--|------------------------------|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|----------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 1425: V-22 | 78.866 | 46.070 | 84.477 | - | 84.477 | 64.982 | 36.685 | 51.603 | 53.043 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

The V-22 Osprey is an Acquisition Category ID Joint Program led by the Department of the Navy for the purpose of developing, testing, evaluating, procuring and fielding a tilt rotor, vertical takeoff and landing aircraft for Joint Service application. The V-22 program is designed to provide an aircraft to meet the amphibious/vertical assault needs of the Marine Corps, the strike rescue needs of the Navy, and the special operations needs of the Air Force and the United States Special Operations Command (USSOCOM). The V-22 is replacing the CH-46E and CH53A/D in the Marine Corps with the MV-22; will supplement the H-60 in the Navy with the HV-22; and replace the MH-53J and MH-53M as well as augment the C-130 in the Air Force and USSOCOM with the CV-22. The V-22 is capable of flying over 2100 nautical miles with a single refueling, giving the services the advantage of a Vertical/Short Take-off and Landing aircraft that can rapidly self-deploy to any location in the world. This program is funded under Engineering Manufacturing and Development for correction of deficiencies and includes Block A and Block B upgrades which encompassed engineering and manufacturing development of new end-items prior to the production incorporation decision. Block C suitability and effectiveness development upgrades began in FY06 and continue through FY12. Overseas Contingency Operations (OCO) funding provided in FY10 was for the development of the Main Landing Gear Bay Fire Suppression system. Funding in FY11 addressed Capability Development Document (CDD) interoperability requirements through a spiral upgrade acquisition strategy. These funds were the first spiral providing Key Enabling Department of Defense mandated open systems architecture upgrades for the mission computer hardware and software while simultaneously addressing required interoperability common avionics upgrades and current avionics obsolescence issues. Development efforts include Block C Upgrade, Mission System Upgrade, Mid-Wing Process Unit, and ARC 210 Generation 5 Radio. FY12 funding initiates instrumentation of a test aircraft.

Basis for FY2010 OCO Supplemental Budget Request: \$1,645K was for increased fuel costs.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|--------------|-------------|---------------|
| Title: Continued development of V-22 | 70.781 | 42.326 | 66.939 | - | 66.939 |
| Articles: | 0 | 0 | 0 | | 0 |
| FY 2010 Accomplishments: | | | | | |
| Performed development efforts for interoperability, including Mid-Wing Process Unit (MPU), Mission System Upgrade to Advanced Mission Computer with a common Integrated Core Avionics Processor (ICAP) and the ARC-210 Generation 5 Radio. These development efforts address V-22 Net-Ready Key Performance Parameters (KPP) and CDD interoperability requirements while simultaneously addressing current avionics | | | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|------------------------------|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604262N: V-22A | PROJECT 1425: V-22 |
|---|--|------------------------------|

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|------------|------------|--------------|-------------|---------------|
| <p>obsolescence issues. OCO funding was for the development of the Main Landing Gear Bay Fire Suppression system.</p> <p>FY 2011 Plans: Continued development efforts for the provided interoperability funding including MPU, Mission System Upgrade to Advanced Mission Computer with a common ICAP and the ARC-210 Generation 5 Radio. These development efforts address V-22 Net-Ready KPP and CDD interoperability requirements while simultaneously addressing current avionics obsolescence issues.</p> <p>FY 2012 Base Plans: Continue development efforts as described above in FY11. Continue MV-22 development efforts by Bell-Boeing. Rolls-Royce will continue to provide engine support and development of MV-22 flight testing. Continue MV-22 software development efforts. Continue development in support of MV-22 Block upgrades. Continue engineering, logistics, flight test, flight test support and address correction of deficiencies. Continue contracted development efforts on test aircraft. Initiate funding for instrumentation of test aircraft.</p> | | | | | |
| <p>Title: Continued support of V-22 development, test and evaluation program</p> <p align="right">Articles:</p> | 8.085 0 | 3.744 0 | 17.538 0 | - | 17.538 0 |
| <p>FY 2010 Accomplishments: Continued in-house field activity support of Integrated Test Team, Integrated Product Teams, engineering and logistics. Continued development in support of MV-22 Block Upgrades. Continued field development efforts on test aircraft. Provided Research & Development support in the areas of Reliability and Maintainability data analysis, loads and dynamics, electromagnetic environmental effects, V-22 avionics, facilities management, structures, communications, etc. Continued engineering, logistics, flight test, flight test support, and addressed correction of deficiencies as required in support of the Flight Test Program, Block C and the overall V-22 development program. In addition, provided R&D support and planning for the Defensive Weapon System development.</p> <p>FY 2011 Plans: Provide continued support as described above in FY10.</p> <p>FY 2012 Base Plans:</p> | | | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|------------------------------|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604262N: V-22A | PROJECT 1425: V-22 |
|---|--|------------------------------|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|--------------|-------------|---------------|
| Provide continued support as described above in FY10 and FY11. Initiate funding for instrumentation of test aircraft. | | | | | |
| Accomplishments/Planned Programs Subtotals | 78.866 | 46.070 | 84.477 | - | 84.477 |

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|----------------------------------|-----------|-----------|--------------|-------------|---------------|-----------|-----------|-----------|-----------|------------------|------------|
| • APN 0164: V-22 | 2,284.902 | 2,202.911 | 2,308.825 | 0.000 | 2,308.825 | 1,883.851 | 1,832.993 | 1,877.147 | 1,815.614 | 6,615.218 | 35,633.258 |
| • APN 0590: V-22 Series | 94.223 | 58.405 | 60.264 | 30.000 | 90.264 | 93.921 | 130.201 | 113.167 | 98.792 | 1,105.000 | 2,171.157 |
| • APN 0605: V-22 Initial Spares | 6.200 | 18.888 | 8.362 | 0.000 | 8.362 | 10.713 | 15.556 | 11.718 | 11.920 | Continuing | Continuing |
| • RDTE 0401318F : CV-22 USAF | 17.992 | 19.640 | 18.270 | 0.000 | 18.270 | 21.983 | 18.277 | 18.237 | 37.891 | Continuing | Continuing |
| • RDTE 1160421BB: CV-22 SOCOM | 30.970 | 12.687 | 14.476 | 0.000 | 14.476 | 9.589 | 0.000 | 0.000 | 0.000 | 0.000 | 518.719 |

D. Acquisition Strategy

The MV-22 is a post Milestone III ACAT-ID program. As a result of mishaps during and subsequent to MV-22 Operational Evaluation (Apr and Dec 00), the program was restructured employing a phased approach to return to flight and tactical introduction. The Contractor and Government defined deficient areas within the program/ aircraft requiring correction prior to return to flight. A Block Upgrade approach was planned, with required efforts identified in Block "A", "B", and "C". Block "A" included those efforts necessary to return the V-22 to safe and operational fleet operations. Block "B" included those efforts necessary to improve the effectiveness and suitability of the aircraft. Block "C" includes mission enhancements like weather radar cabin effectiveness suitability improvements, i.e., Environmental Control System and Forward Firing ALE-47. Non-recurring development activities are to be initiated and completed for all efforts identified in Block "A", "B", and "C". The Contractor will develop specific Statements of Work and Preliminary Specification Change Notices required to integrate the Block Upgrade efforts into the baseline Program. A Systems Requirements Review, Initial Design Review, and Final Design Review was held for each of the Block efforts so the design maturity could be reviewed and the Government could redirect activities as appropriate. The CV-22 Engineering Manufacturing and Development program is also structured in Blocks to define an evolutionary approach to achieving full operational capability. Block "0" is the initial baseline CV-22 variant. Block "10" enhances mission capability with the addition of terrain following radar, additional fuel tanks, additional radios, and Block "20" includes capabilities such as radio frequency and infrared countermeasures improvements. Additional Blocks are in the planning stages to continue the growth process throughout the operational life of the weapon system.

E. Performance Metrics

Milestone Reviews.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|------------------------------|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604262N: V-22A | PROJECT 1425: V-22 |
|---|--|------------------------------|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| MV-22 Hardware Dev Airframe | SS/CPAF | Boeing Co.:Ridley Park, PA | 3,794.908 | 39.186 | Jan 2011 | 65.043 | Jan 2012 | - | | 65.043 | 215.980 | 4,115.117 | 4,115.117 |
| MV-22 Hardware Dev Propulsion | SS/CPIF | Rolls-Royce Corp.:Indianapolis, IN | 195.676 | 2.199 | Jan 2011 | 0.797 | Jan 2012 | - | | 0.797 | 1.607 | 200.279 | 200.279 |
| MV-22 Award Fee | SS/CPAF | Boeing Co.:Ridley Park, PA | 211.609 | 0.941 | Jan 2011 | 1.100 | Sep 2012 | - | | 1.100 | 0.000 | 213.650 | 231.583 |
| Prior Year Prod Dev | Various | Various:Various | 1,016.085 | - | | - | | - | | - | 0.000 | 1,016.085 | |
| Subtotal | | | 5,218.278 | 42.326 | | 66.940 | | - | | 66.940 | 217.587 | 5,545.131 | |

Remarks
Total award fee pool available for MV portion is \$231,583.

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| MV-22 Govt Engineering Sppt | WR | NAWCAD:Pax River, MD | 1,099.703 | 0.003 | Nov 2010 | 1.611 | Dec 2011 | - | | 1.611 | 30.445 | 1,131.762 | |
| Prior Year Support | Various | Various:Various | 189.718 | - | | - | | - | | - | 0.000 | 189.718 | |
| Subtotal | | | 1,289.421 | 0.003 | | 1.611 | | - | | 1.611 | 30.445 | 1,321.480 | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| MV-22 Dev Test & Evaluation | WR | NAWCAD:Pax River, MD | 985.089 | 2.100 | Nov 2010 | 8.663 | Dec 2011 | - | | 8.663 | 61.071 | 1,056.923 | |
| MV-22 Operational Test & Evaluation | WR | OT&E Force:Norfolk, VA | 43.559 | - | | 4.449 | Dec 2011 | - | | 4.449 | 27.364 | 75.372 | |
| Prior Year T & E | Various | Various:Various | 48.200 | - | | - | | - | | - | 0.000 | 48.200 | |
| Subtotal | | | 1,076.848 | 2.100 | | 13.112 | | - | | 13.112 | 88.435 | 1,180.495 | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604262N: V-22A

PROJECT

1425: V-22

| V-22 | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|-------------------------------|-----------------------------|----|----|----|----------|----------|----------|----|---------|----------|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Engineering Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Block C Increments I & II | | | | | FCA ▼ | PCA ▼ | | | | | | | | | | | | | | | | | | | | | | |
| Block C Increment III | | | | | | | FCA ▼ | | | PCA ▼ | | | | | | | | | | | | | | | | | | |
| Systems Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test & Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Development Test | Flight Test/Integrated Test | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operational Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604262N - 1425

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|------------------------------|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604262N: V-22A | PROJECT 1425: V-22 |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| V-22 | | | | |
| Engineering Milestones: Block C Increments I & II: Block C Increment (Inc) I&II Functional Configuration Audit (FCA) | 1 | 2011 | 1 | 2011 |
| Engineering Milestones: Block C Increments I & II: Block C Inc I&II Physical Configuration Audit (PCA) | 2 | 2011 | 2 | 2011 |
| Engineering Milestones: Block C Increment III: Block C Inc III FCA | 3 | 2011 | 3 | 2011 |
| Engineering Milestones: Block C Increment III: Block C Inc III PCA | 2 | 2012 | 2 | 2012 |
| Test & Evaluation: Development Test: Development Flight Test / Integrated Test (IT-IIIID) & Continuous software sustainment developmental testing | 1 | 2010 | 4 | 2016 |
| Test & Evaluation: Operational Evaluation: Operational Testing (OT-IIIIG) | 3 | 2011 | 3 | 2011 |
| Test & Evaluation: Operational Evaluation: Operational Testing (OT-IIIH) | 3 | 2012 | 3 | 2012 |
| Test & Evaluation: Operational Evaluation: Software Sustainment Operational Testing (SSOT-I) | 3 | 2013 | 3 | 2013 |
| Test & Evaluation: Operational Evaluation: Software Sustainment Operational Testing (SSOT-II) | 3 | 2015 | 3 | 2015 |
| Test & Evaluation: Operational Evaluation: Operational Test Readiness Review (OTRR) I | 2 | 2011 | 2 | 2011 |
| Test & Evaluation: Operational Evaluation: Operational Test Readiness Review (OTRR) II | 2 | 2012 | 2 | 2012 |

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | | | | R-1 ITEM NOMENCLATURE | | | | | | | |
|---|----------------|----------------|---------------------|--|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | PE 0604264N: <i>Air Crew Systems Development</i> | | | | | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| Total Program Element | 12.154 | 8.689 | 3.249 | - | 3.249 | 2.762 | 7.242 | 12.492 | 12.518 | Continuing | Continuing |
| 0606: <i>Aircrew System Development</i> | 12.154 | 8.689 | 3.249 | - | 3.249 | 2.762 | 7.242 | 12.492 | 12.518 | Continuing | Continuing |

A. Mission Description and Budget Item Justification

The Aircrew Systems Development program provides Engineering and Manufacturing Development of Aviation Life Support Systems to protect aircrews from current and future threats including: directed energy weapons, chemical/biological/radiological agents/fallout, ballistic projectiles, temperature extremes, heat/fire, low concentration oxygen environments, high dynamic forces during emergency egress, and high "G" forces. The program also provides development for the following capabilities: night vision capability, head protection, communications, clothing, in flight restraint and stability emergency egress and descent, escape and evasion, survival and rescue, crash protection, and anthropometric sizing for small aircrew. Acquisition initiatives include: competition, the application of streamlining initiatives, use of non-developmental items, joint and tri-service developments, and the pursuit of NATO/allied cooperative ventures, which expedite introduction of new products into Navy and Marine Corps fixed and rotary wing aircraft, reduce costs, and promote commonality.

Enhanced Visual Acuity (EVA) previously called Wide Field of View (WFOV) - Night Vision has been focused to provide enhanced visibility in degraded visual environments and enhanced field of view. FY11-16 program realigns from Other Procurement Navy (OPN) to Research Development Test & Evaluation due to the program being placed back into Science & Technology (S&T) development. Procurement will not begin until FY18. This resulted in a reduction of \$2.686M in FY11; which was transferred for additional S&T efforts for the Night Vision Program, and increases in FY12-16 taken from the WFOV OPN line.

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 12.513 | 8.689 | 3.786 | - | 3.786 |
| Current President's Budget | 12.154 | 8.689 | 3.249 | - | 3.249 |
| Total Adjustments | -0.359 | - | -0.537 | - | -0.537 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | - | - | | | |
| • SBIR/STTR Transfer | -0.217 | - | | | |
| • Program Adjustments | - | - | -0.462 | - | -0.462 |
| • Section 219 Reprogramming | -0.142 | - | - | - | - |
| • Rate/Misc Adjustments | - | - | -0.075 | - | -0.075 |

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy DATE: February 2011

| | |
|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604264N: <i>Air Crew Systems Development</i> |
|---|--|

Change Summary Explanation

Schedule:

1. Acquisition Milestones:

- A. Aircrew Endurance (AE) - Milestone (MS) C changed from 1Q11 to 3Q11. Aligned to coincide with current acquisition strategy.
- B. AE - Initial Operational Capability (IOC) changed from 1Q12 to 3Q12. Aligned to coincide with current acquisition strategy.
- C. Common Mobile Aircrew Restraint System (CMARS) - Milestones removed and replaced with work stoppage and contract closeout due to N88 decision to defund the CMARS Program.
- D. Non-Ejection Seat Endurance (NESE) - Details added to the schedule. Full Rate Production Decision (FRPD) is 2Q11 to coincide with current acquisition strategy.
- E. NESE - Initial Operational Capability (IOC) is 1Q12 to coincide with current acquisition strategy.

2. Test and Evaluation:

- A. AE - DT changed from 1Q09-1Q11 to 1Q09-3Q11 due to redesign and requalification testing.
- B. CMARS - All testing removed due to defunding of program.
- C. Laser Eye Protection (LEP) - Developmental Testing (DT) changed from 3Q10-2Q11 to 1Q11-1Q12. Delay in Acquisition Decision for contract award.
- D. Flight Deck Cranial (FDC) - DT changed from 4Q08-3Q10 to 4Q08-2Q11. Realigned component & system level test requirements.

3. Production Milestones:

- A. AE - Full Rate Production(FRP) changed from 1Q11 to 4Q11. Aligned to coincide with current acquisition strategy.
- B. AE - Deliveries changed from 2Q09-4Q15 to 3Q09-4Q16 due to extension of DT.
- C. CMARS - Production milestones removed due to defunding of program.

Technical: N/A

UNCLASSIFIED

| | | | | | | | | | | | |
|---|----------------|----------------|---------------------|--|----------------------|----------------|----------------|---|----------------------------|-------------------------|-------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | | | | | | | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | R-1 ITEM NOMENCLATURE PE 0604264N: <i>Air Crew Systems Development</i> | | | | PROJECT 0606: <i>Aircrew System Development</i> | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| 0606: <i>Aircrew System Development</i> | 12.154 | 8.689 | 3.249 | - | 3.249 | 2.762 | 7.242 | 12.492 | 12.518 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

AIRCREW SYSTEMS: Aircrew Endurance (AE), Laser Eye Protection (LEP), Flight Deck Cranial (FDC), Joint Helmet Mounted Cueing System (JHMCS), Night Vision Cueing and Display (NVCD), Enhanced Visual Acuity (EVA) and Aircrew Systems (AS).

Under the above projects, AE includes Survival Vests & Armor, Universal Camouflage, Waste Management, Hydration and Cooling. LEP includes Laser Eye Self Protection, Multi-Wavelength Spectacles and Laser Eye Protection Improvement Program (LEPIP). FDC includes Improved Hearing Protection. JHMCS NVCD includes JHMCS Night Attack. EVA includes Non-Ejection Wide Field of View (WFOV) Night Vision Goggles (NVG), future Ejection (Non-JHMCS) WFOV NVG, and enhanced visibility in degraded visual environment technology. AS includes State of the Art (SOA), Modular Aircrew Common Helmet
 AIRCRAFT SYSTEMS: Ejection Seat Endurance (ESE) includes aircrew endurance modifications for F/A-18 aircraft. Common Mobile Aircrew Restraint System (CMARS) includes a retractor system for rotary wing aircraft. Aircraft systems include studies for Advanced Crash Protection (ACP), Crashworthy Troop Seats (CWTS), Oxygen Systems and Non-Ejection Seat Endurance (NESE).

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|----------------|----------------|---------------------|--------------------|----------------------|
| Title: Aircrew System Development | 11.261 | 7.188 | 2.614 | - | 2.614 |
| Articles: | 0 | 0 | 0 | | 0 |
| Description: AE includes Survival Vests & Armor, Universal Camouflage, Waste Management, Hydration and Cooling. LEP includes LEP Spectacles (both Self Protection and Multi-Wavelength), step-in visor and LEPIP. FDC includes Improved Hearing Protection. JHMCS NVCD includes JHMCS Night Attack. EVA includes Non-Ejection WFOV NVG, future Ejection (Non-JHMCS) WFOV NVG and enhanced visibility in degraded visual environment technology. AS includes SOA, Modular Aircrew Common Helmet. | | | | | |
| FY 2010 Accomplishments: AE: Conducted qualification testing of survival vest and armor for integration, compatibility and performance to meet program Key Performance Parameters and Key System Attributes (KSA). Testing final color selection for universal camouflage and researching components color availability for Aviation Life Support System items. Completed procurement of the Advanced Mission Extender Devices. | | | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604264N: <i>Air Crew Systems Development</i> | PROJECT 0606: <i>Aircrew System Development</i> |
|---|--|---|

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|--------------|-------------|---------------|
| <p>LEP: Completed source selection and award of the Engineering, Manufacturing and Development Contract for the fixed wavelength self/hazard and/or threat protection spectacles; conducting optical, environmental, and laser saturation testing.</p> <p>FDC: Continued verification and evaluation of the Integrated modular system.</p> <p>JHMCS NVCD: Completed testing and logistics planning. Reached Milestone C (MS C) and began process for initial procurement of Low Rate Initial Production units.</p> <p>WFOV: Conducted studies on digital technology development and monitor Science & Technology (S&T) to determine technology suitability for non-ejection seat NVG platforms. Provided supplemental funding in support of the Defense/Industry development of Sensor and Micro-Display Technology.</p> <p>SOA: Tested ballistic eye protection sunglasses and flight deck goggles; tested of Garmin GPSMAP 60Cx handheld Global Positioning System as evasion optional item; tested two piece flight suit; evaluation of vortex monocular, knee and elbow pads, drifire and massif skullcaps and alternative cold weather jacket and pant.</p> <p><i>FY 2011 Plans:</i></p> <p>AE: Complete fleet assessment for survival vest and armor and conduct Full Rate Production (FRP) Acquisition Decision Review.</p> <p>LEP: Complete Developmental Testing (DT) to include cockpit compatibility, flight tests and system validation/verification for spectacles. Complete MS C and begin procurement of basic spectacles.</p> <p>FDC: Complete FDC Double Hearing Protection verification and evaluation. Qualify FDC Cranial and Triple Hearing Protection solutions. Complete Phase II (Preliminary design of the ship alteration), Phase III (Detailed design of the ship alteration) and Phase IV (Implementation of the ship alteration) shipboard integration.</p> <p>JHMCS NVCD: Continue the completion stages of systems integration and work any required engineering changes discovered during Operational Testing (OT).</p> <p>WFOV: Continue Analysis of Alternatives on digital technology development and monitor S&T to determine technology suitability for non-ejection seat NVG platforms.</p> <p>SOA: Continue a yearly evaluation and authorization of the survival and clothing items.</p> <p><i>FY 2012 Base Plans:</i></p> <p>AE: Deliver AE vest system. Initial Operational Capability (IOC) of the AE vest system. Procure additional quantities.</p> <p>LEP: Complete DT on second increment Spectacles and begin procurement. Begin development and test of visor.</p> <p>FDC: Complete FDC System verification and evaluation. Complete the final phase of the shipboard integration.</p> | | | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604264N: <i>Air Crew Systems Development</i> | PROJECT 0606: <i>Aircrew System Development</i> |
|---|--|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|--------------|-------------|---------------|
| JHMCS NVCD: Address any required engineering changes discovered during OT. EVA: Complete Analysis of Alternatives. Award the Technology Development contract. SOA: Continue the evaluation and authorization of the survival and clothing items. | | | | | |
| Title: Aircraft Systems Development | 0.893 | 1.501 | 0.635 | - | 0.635 |
| Articles: | 0 | 0 | 0 | | 0 |
| Description: ESE includes aircrew endurance modifications for F/A-18 aircraft. CMARS includes a retractor system for rotary and fixed wing aircraft. AS include studies for ACP, CWTS, Oxygen Systems and NESE for non-ejection seat aircraft. | | | | | |
| FY 2010 Accomplishments: CMARS: Continued system development. ESE: Continued fleet assessment of aircrew endurance modifications for F/A-18, T-45, EA-6B and AV-8B aircraft and develop Engineering Change Proposal. Awarded first production contract for F/A-18, T-45, EA-6B. NESE: Completed DT and System Integration testing which included: qualification, ground crew compatibility, verify and validate the seat cushion performance specification parameters and all program KSAs. | | | | | |
| FY 2011 Plans: CMARS: Issue stop-work and complete contract close-out. NESE/ESE: Complete Physical Configuration Review and IOC. Award of follow-on NESE/AV8ESE contract option. | | | | | |
| FY 2012 Base Plans: NESE: Deliver all NESE cushions to fleet. Reach Material Support Date and Navy Support Date. | | | | | |
| Accomplishments/Planned Programs Subtotals | 12.154 | 8.689 | 3.249 | - | 3.249 |

| C. Other Program Funding Summary (\$ in Millions) | | | | | | | | | | | |
|--|----------------|----------------|---------------------|--------------------|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012 Base</u> | <u>FY 2012 OCO</u> | <u>FY 2012 Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To Complete</u> | <u>Total Cost</u> |
| • OPN/4244: <i>Aviation Life Support</i> | 48.115 | 66.720 | 66.031 | 14.000 | 80.031 | 44.026 | 37.818 | 36.307 | 37.680 | Continuing | Continuing |
| | 5.577 | 8.084 | 1.069 | 0.000 | 1.069 | 6.777 | 12.209 | 12.443 | 11.646 | 69.695 | 136.465 |

UNCLASSIFIED

| | |
|--|----------------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | DATE: February 2011 |
|--|----------------------------|

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604264N: <i>Air Crew Systems Development</i> | PROJECT 0606: <i>Aircrew System Development</i> |
|---|--|---|

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> <u>Base</u> | <u>FY 2012</u> <u>OCO</u> | <u>FY 2012</u> <u>Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
|---|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| • APN/0575: <i>Aviation Life Support Mods</i> | | | | | | | | | | | |

D. Acquisition Strategy

Commercial Off-The-Shelf /Non-Developmental Items where possible, cost plus award fee contracts. Majority of programs non-ACAT programs.

E. Performance Metrics

- AE: Performance Metrics to include MS C, FRP and IOC.
- LEP (Spectacle): Performance Metrics to include CDR, MS C, and IOC.
- FDC: Performance Metrics to include CDR, MS C, FRP, and IOC.
- NESE: Performance Metrics to include MS C, FRP and IOC.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604264N: <i>Air Crew Systems Development</i> | PROJECT 0606: <i>Aircrew System Development</i> |
|---|--|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Systems Eng Aircrew Endurance | C/CPFF | Red Inc:Lexington Park, MD | 5.666 | 1.063 | Feb 2011 | 0.394 | Feb 2012 | - | | 0.394 | 2.572 | 9.695 | 9.695 |
| Systems Eng Laser Eye Protection (LEP) | WR | NAWCAD:Patuxent River, MD | 3.857 | 1.096 | Dec 2010 | 0.372 | Dec 2011 | - | | 0.372 | 2.120 | 7.445 | |
| Systems Eng LEP | C/CPFF | Various:Various | 2.122 | 0.658 | Jun 2011 | - | | - | | - | 0.000 | 2.780 | 2.780 |
| Systems Eng Flight Deck Cranial (FDC) | WR | NAWCAD:Patuxent River, MD | 2.700 | 0.514 | Dec 2010 | 0.732 | Dec 2011 | - | | 0.732 | 0.946 | 4.892 | |
| Systems Eng FDC | C/CPFF | Various:Various | 4.162 | 0.791 | Jan 2011 | - | | - | | - | 0.000 | 4.953 | 4.953 |
| Systems Eng Joint Helmet Mounted Cueing System (JHMCS) Night Vision Cueing & Display (NVCD) | Various | Various:Various | 7.658 | 0.071 | Nov 2010 | 0.054 | Nov 2011 | - | | 0.054 | 0.227 | 8.010 | |
| Systems Eng Wide Field of View | Various | Various:Various | 1.386 | 0.464 | Nov 2010 | - | | - | | - | 19.800 | 21.650 | |
| Systems Eng Enhanced Visual Acuity | WR | Various:Various | - | - | | 0.217 | Nov 2011 | - | | 0.217 | 0.000 | 0.217 | |
| Systems Eng Aircrew Systems | WR | Various:Various | 4.785 | 1.546 | Dec 2010 | 0.295 | Dec 2011 | - | | 0.295 | 17.775 | 24.401 | |
| Systems Eng Common Mobile Aircrew Restraint System | Various | various:various | 10.337 | 0.705 | Apr 2011 | - | | - | | - | Continuing | Continuing | Continuing |
| Systems Eng Aircraft Sys | WR | Various:Various | 38.983 | 0.796 | Dec 2010 | 0.635 | Dec 2011 | - | | 0.635 | 2.732 | 43.146 | |
| Subtotal | | | 81.656 | 7.704 | | 2.699 | | - | | 2.699 | | | |

Remarks

WFOV has been renamed Enhanced Visual Acuity in FY12. Program has been redefined to include enhanced visibility in degraded visual environments as well as expanding the field of view of night vision systems.

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Contractor ETS | C/CPFF | Red Inc:Lexington Park, MD | 8.724 | 0.710 | Dec 2010 | 0.275 | Dec 2011 | - | | 0.275 | 1.744 | 11.453 | 11.453 |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604264N: *Air Crew Systems Development*

PROJECT

0606: *Aircrew System Development*

| Aircrew Endurance | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | | | | | |
|-------------------------------|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|--|--|--|--|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | | | | |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| System Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reviews | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test & Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DT | DT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contract Awards | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AMXD Survivability Upgrade | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AE Vest LRIP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AE Vest FRP1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AE Vest FRP 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AE Vest FRP 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AE Vest FRP 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AE Vest FRP 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AMXD Surv Upg | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AE Vest LRIP Qty 600 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FRP 1 Qty 3248 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AE FRP 2 Qty 1926 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FRP 3 Qty 979 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FRP 4 Qty 804 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FRP 5 Qty 1198 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604264N - 0606

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604264N: <i>Air Crew Systems Development</i> | PROJECT 0606: <i>Aircrew System Development</i> |
|---|--|---|

| Common Mobile Aircrew Restraint System | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | | | | | |
|---|---------|----|----|----|---------|----|---------|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|--|--|--|--|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | | | | |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Milestones | | | | | | | WS ▲ | | | | | | | | | | | | | | | | | | | | | | | | | |
| System Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reviews | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test & Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contract Awards | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604264N - 0606

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604264N: *Air Crew Systems Development*

PROJECT

0606: *Aircrew System Development*

| Joint Helmet Mounted Cueing System | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|------------------------------------|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| System Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reviews | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test & Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contract Awards | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604264N - 0606

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604264N: <i>Air Crew Systems Development</i> | PROJECT 0606: <i>Aircrew System Development</i> |
|---|--|---|

| | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|-------------------------------|---------|----|----------|----------|---------|----|-----------|----------|---------|----|----|------------------------|---------|----|------------------------|----|---------|----|------------------------|----|---------|----|------------------------|----|---------|----|------------|----|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q |
| Laser Eye Protection | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Milestones | | | | | | | MS C ▲ | IOC ▲ | | | | | | | | | | | | | | | | | | | | |
| System Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reviews | | | PDR ■ | CDR ■ | | | | | | | | | | | | | | | | | | | | | | | | |
| Test & Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DT | | | | | DT | | | | | | | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contract Awards | | | | | | | | | | | | FRP 1 ● | | | FRP 2 ● | | | | FRP 3 ● | | | | FRP 4 ● | | | | FRP 5 ● | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FRP Qty | | | | | | | | | | | | FRP 1 Qty 180 | | | FRP 2 Qty 185 | | | | FRP 3 Qty 455 | | | | FRP 4 Qty 465 | | | | | |

2012PB - 0604264N - 0606

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy DATE: February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: Development & Demonstration (SDD) | R-1 ITEM NOMENCLATURE PE 0604264N: Air Crew Systems Development | PROJECT 0606: Aircrew System Development |
|---|---|--|

| Flight Deck Cranial | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|---|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MS C ▲ FRPD ◆ IOC ▲ | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| System Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reviews | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test & Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DT | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contract Awards | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EOC Hearing Prot ● LRIP ● FRP 1 ● FRP 2 ● FRP 3 ● FRP 4 ● FRP 5 ● FRP 6 ● | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EOC Hearing Prot Qty 4000 LRIP Qty 350 FRP 1 Vend 1 Qty 2135 FRP 1 Vend 2 Qty 2135 FRP 1 Vend 2 Qty 3652 FRP 3 Vend 1 Qty 1774 FRP 3 Vend 2 Qty 1773 FRP 4 Vend 1 Qty 1210 FRP 4 Vend 2 Qty 1210 FRP 5 Vend 1 Qty 1367 FRP 5 Vend 2 Qty 1367 FRP 6 Vend 1 Qty 1393 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604264N: <i>Air Crew Systems Development</i> | PROJECT 0606: <i>Aircrew System Development</i> |
|---|--|---|

| | | |
|--------------------------|--|--------------------------------|
| 2012PB - 0604264N - 0606 | | FRP 6 Vend 2 Qty 1393 |
|--------------------------|--|--------------------------------|

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604264N: <i>Air Crew Systems Development</i> | PROJECT 0606: <i>Aircrew System Development</i> |
|---|--|---|

| Non-Ejection Seat Endurance | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|-------------------------------|---------|----|----|--------------|---------|-----------|----|---------------------------------|---------|----|----|----------|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Milestones | | | | MS C ▲ | | FRPD ◆ | | | | | | IOC ▲ | | | | | | | | | | | | | | | | |
| System Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reviews | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test & Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contract Awards | | | | | | H-53 ● | | H-60, V-22,E-2 & C-2 ● | | | | H-1 ● | | | | | | | | | | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604264N - 0606

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604264N: <i>Air Crew Systems Development</i> | PROJECT 0606: <i>Aircrew System Development</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| <i>Aircrew Endurance</i> | | | | |
| Acquisition Milestones: Milestones: AE: MS C/FRP | 3 | 2011 | 3 | 2011 |
| Acquisition Milestones: Milestones: Initial Operational Capability (IOC) | 3 | 2012 | 3 | 2012 |
| Test & Evaluation: Aircrew Endurance (AE): DT | 1 | 2010 | 3 | 2011 |
| Production Milestones: Contract Awards: AMXD Survivability Upgrade | 1 | 2010 | 1 | 2010 |
| Production Milestones: Contract Awards: Aircrew Endurance Vest LRIP | 4 | 2011 | 4 | 2011 |
| Production Milestones: Contract Awards: Aircrew Endurance Vest FRP 1 | 2 | 2012 | 2 | 2012 |
| Production Milestones: Contract Awards: Aircrew Endurance Vest FRP 2 | 2 | 2013 | 2 | 2013 |
| Production Milestones: Contract Awards: Aircrew Endurance Vest FRP 3 | 2 | 2014 | 2 | 2014 |
| Production Milestones: Contract Awards: Aircrew Endurance Vest FRP 4 | 2 | 2015 | 2 | 2015 |
| Production Milestones: Contract Awards: Aircrew Endurance Vest FRP 5 | 2 | 2016 | 2 | 2016 |
| Deliveries: AMXD Survivability Upgrade | 4 | 2010 | 2 | 2012 |
| Deliveries: Aircrew Endurance Vest LRIP | 3 | 2012 | 2 | 2013 |
| Deliveries: Aircrew Endurance Vest FRP 1 | 1 | 2013 | 3 | 2013 |
| Deliveries: Aircrew Endurance Vest FRP 2 | 4 | 2013 | 3 | 2014 |
| Deliveries: Aircrew Endurance Vest FRP 3 | 4 | 2014 | 3 | 2015 |
| Deliveries: Aircrew Endurance Vest FRP 4 | 4 | 2015 | 3 | 2016 |
| Deliveries: Aircrew Endurance Vest FRP 5 | 4 | 2016 | 4 | 2016 |
| <i>Common Mobile Aircrew Restraint System</i> | | | | |
| Acquisition Milestones: Milestones: CMARS: Work Stoppage Issued | 1 | 2011 | 1 | 2011 |
| Acquisition Milestones: Milestones: CMARS: Contract Closeout | 3 | 2011 | 3 | 2011 |
| <i>Joint Helmet Mounted Cueing System</i> | | | | |

UNCLASSIFIED

| | | |
|---|--|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604264N: <i>Air Crew Systems Development</i> | PROJECT 0606: <i>Aircrew System Development</i> |

| Events by Sub Project | Start | | End | |
|---|----------------|-------------|----------------|-------------|
| | Quarter | Year | Quarter | Year |
| Acquisition Milestones: Milestones: JHMCS NVCD: FRP | 4 | 2012 | 4 | 2012 |
| Test & Evaluation: Joint Helmet Mounted Cueing System (JHMCS) Night Vision Cueing & Display (NVCD): DT/OT | 1 | 2010 | 1 | 2011 |
| Production Milestones: Contract Awards: JHMCS LRIP 1 | 3 | 2010 | 3 | 2010 |
| Production Milestones: Contract Awards: JHMCS LRIP 2 | 3 | 2010 | 3 | 2010 |
| Production Milestones: Contract Awards: JHMCS FRP 1 | 3 | 2012 | 3 | 2012 |
| Production Milestones: Contract Awards: JHMCS FRP 2 | 3 | 2013 | 3 | 2013 |
| Production Milestones: Contract Awards: JHMCS FRP 3 | 3 | 2014 | 3 | 2014 |
| Production Milestones: Contract Awards: JHMCS FRP 4 | 3 | 2015 | 3 | 2015 |
| Production Milestones: Contract Awards: JHMCS FRP 5 | 3 | 2016 | 3 | 2016 |
| Deliveries: JHMCS LRIP 1 | 3 | 2010 | 4 | 2011 |
| Deliveries: JHMCS LRIP 2 | 2 | 2011 | 4 | 2011 |
| Deliveries: JHMCS FRP 1 | 3 | 2012 | 2 | 2013 |
| Deliveries: JHMCS FRP 2 | 3 | 2013 | 4 | 2013 |
| Deliveries: JHMCS FRP 3 | 1 | 2014 | 4 | 2014 |
| Deliveries: JHMCS FRP 4 | 1 | 2015 | 4 | 2015 |
| Deliveries: JHMCS FRP 5 | 1 | 2016 | 4 | 2016 |
| <i>Laser Eye Protection</i> | | | | |
| Acquisition Milestones: Milestones: LEP/SPECTACLE: MS C | 3 | 2011 | 3 | 2011 |
| Acquisition Milestones: Milestones: LEP/SPECTACLE: IOC | 4 | 2011 | 4 | 2011 |
| System Development: Reviews: Laser Eye Protection(LEP)/SPECTACLE: PDR | 3 | 2010 | 3 | 2010 |
| System Development: Reviews: LEP/SPECTACLE:CDR | 4 | 2010 | 4 | 2010 |
| Test & Evaluation: LEP/SPECTACLE: DT | 1 | 2011 | 1 | 2012 |
| Production Milestones: Contract Awards: Laser Eye Protection FRP 1 | 4 | 2012 | 4 | 2012 |

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604264N: <i>Air Crew Systems Development</i> | PROJECT 0606: <i>Aircrew System Development</i> |
|---|--|---|

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Production Milestones: Contract Awards: Laser Eye Protection FRP 2 | 4 | 2013 | 4 | 2013 |
| Production Milestones: Contract Awards: Laser Eye Protection FRP 3 | 4 | 2014 | 4 | 2014 |
| Production Milestones: Contract Awards: Laser Eye Protection FRP 4 | 4 | 2015 | 4 | 2015 |
| Production Milestones: Contract Awards: Laser Eye Protection FRP 5 | 4 | 2016 | 4 | 2016 |
| Deliveries: Laser Eye Protection Threat FRP 1 | 1 | 2013 | 1 | 2013 |
| Deliveries: Laser Eye Protection FRP 2 | 1 | 2014 | 1 | 2014 |
| Deliveries: Laser Eye Protection FRP 3 | 1 | 2015 | 2 | 2015 |
| Deliveries: Laser Eye Protection FRP 4 | 1 | 2016 | 2 | 2016 |
| <i>Flight Deck Cranial</i> | | | | |
| Acquisition Milestones: Milestones: FDC: MS C | 2 | 2011 | 2 | 2011 |
| Acquisition Milestones: Milestones: FDC: FRP | 2 | 2011 | 2 | 2011 |
| Acquisition Milestones: Milestones: FDC: IOC | 1 | 2012 | 1 | 2012 |
| Test & Evaluation: Flight Deck Cranial(FDC): DT | 1 | 2010 | 2 | 2011 |
| Production Milestones: Contract Awards: EOC Hearing Protection | 2 | 2010 | 2 | 2010 |
| Production Milestones: Contract Awards: Flight Deck Cranial LRIP | 2 | 2011 | 2 | 2011 |
| Production Milestones: Contract Awards: Flight Deck Cranial FRP 1 | 2 | 2011 | 2 | 2011 |
| Production Milestones: Contract Awards: Flight Deck Cranial FRP 2 | 2 | 2012 | 2 | 2012 |
| Production Milestones: Contract Awards: Flight Deck Cranial FRP 3 | 2 | 2013 | 2 | 2013 |
| Production Milestones: Contract Awards: Flight Deck Cranial FRP 4 | 2 | 2014 | 2 | 2014 |
| Production Milestones: Contract Awards: Flight Deck Cranial FRP 5 | 2 | 2015 | 2 | 2015 |
| Production Milestones: Contract Awards: Flight Deck Cranial FRP 6 | 2 | 2016 | 2 | 2016 |
| Deliveries: EOC Hearing Protection | 2 | 2010 | 2 | 2011 |
| Deliveries: Flight Deck Cranial LRIP | 2 | 2011 | 2 | 2011 |
| Deliveries: Flight Deck Cranial FRP 1 Vend 1 | 2 | 2011 | 2 | 2012 |

UNCLASSIFIED

| | | |
|---|--|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604264N: <i>Air Crew Systems Development</i> | PROJECT 0606: <i>Aircrew System Development</i> |

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Deliveries: Flight Deck Cranial FRP 1 Vend 2 | 2 | 2011 | 2 | 2012 |
| Deliveries: Flight Deck Cranial FRP 2 Vend 1 | 3 | 2012 | 2 | 2013 |
| Deliveries: Flight Deck Cranial FRP 2 Vend 2 | 3 | 2012 | 2 | 2013 |
| Deliveries: Flight Deck Cranial FRP 3 Vend 1 | 3 | 2013 | 2 | 2014 |
| Deliveries: Flight Deck Cranial FRP 3 Vend 2 | 3 | 2013 | 2 | 2014 |
| Deliveries: Flight Deck Cranial FRP 4 Vend 1 | 3 | 2014 | 2 | 2015 |
| Deliveries: Flight Deck Cranial FRP 4 Vend 2 | 3 | 2014 | 2 | 2015 |
| Deliveries: Flight Deck Cranial FRP 5 Vend 1 | 3 | 2015 | 2 | 2016 |
| Deliveries: Flight Deck Cranial FRP 5 Vend 2 | 3 | 2015 | 2 | 2016 |
| Deliveries: Flight Deck Cranial FRP 6Vend 1 | 3 | 2016 | 4 | 2016 |
| Deliveries: Flight Deck Cranial FRP 6 Vend 2 | 3 | 2016 | 4 | 2016 |
| Non-Ejection Seat Endurance | | | | |
| Acquisition Milestones: Milestones: Non-Ejection Seat Endurance(NESE): MS C | 4 | 2010 | 4 | 2010 |
| Acquisition Milestones: Milestones: NESE: FRP | 2 | 2011 | 2 | 2011 |
| Acquisition Milestones: Milestones: NESE: IOC | 1 | 2012 | 1 | 2012 |
| Production Milestones: Contract Awards: H-53 | 2 | 2011 | 2 | 2011 |
| Production Milestones: Contract Awards: H-60, V-22,E-2/C-2 | 3 | 2011 | 3 | 2011 |
| Production Milestones: Contract Awards: H-1 | 4 | 2011 | 4 | 2011 |
| Deliveries: H-53 Qty 430 | 1 | 2012 | 3 | 2012 |
| Deliveries: H-60 Qty 564 , V-22 Qty 326 ,E-2/C-2 Qty 425 | 2 | 2012 | 4 | 2012 |
| Deliveries: H-1 Qty 402 | 3 | 2012 | 1 | 2013 |

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | | | R-1 ITEM NOMENCLATURE | | | | | | | | |
|---|----------------|----------------|-------------------------------------|--------------------|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> | | | PE 0604269N: <i>EA-18 Squadrons</i> | | | | | | | | |
| BA 5: <i>Development & Demonstration (SDD)</i> | | | | | | | | | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| Total Program Element | 55.532 | 22.042 | 17.100 | - | 17.100 | 13.136 | 15.619 | 16.374 | 16.507 | Continuing | Continuing |
| 3063: <i>EA-18G Development</i> | 53.939 | 22.042 | 17.100 | - | 17.100 | 13.136 | 15.619 | 16.374 | 16.507 | Continuing | Continuing |
| 9999: <i>Congressional Adds</i> | 1.593 | - | - | - | - | - | - | - | - | 0.000 | 1.593 |

A. Mission Description and Budget Item Justification

The EA-18G is replacing the EA-6B aircraft. The EA-18G's electronic attack upgrades the EA-6B Airborne Electronic Attack capability to detect, identify, locate and suppress hostile emitters.

Congressional Add:

9A33A Next Generation Electronic Warfare Simulator. Provides Radio Frequency threat generation capabilities for the EA-18G Advanced Weapons Laboratory team to validate and verify the performance of mission critical Electronic Warfare systems.

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 56.809 | 22.042 | 16.783 | - | 16.783 |
| Current President's Budget | 55.532 | 22.042 | 17.100 | - | 17.100 |
| Total Adjustments | -1.277 | - | 0.317 | - | 0.317 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | - | - | | | |
| • SBIR/STTR Transfer | -1.159 | - | | | |
| • Program Adjustments | 0.269 | - | 0.642 | - | 0.642 |
| • Section 219 Reprogramming | -0.386 | - | - | - | - |
| • Rate/Misc Adjustments | - | - | -0.325 | - | -0.325 |
| • Congressional General Reductions Adjustments | -0.001 | - | - | - | - |

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 9999: *Congressional Adds*

Congressional Add: *Next Generation Electronic Warfare Simulator*

| FY 2010 | FY 2011 |
|----------------|----------------|
| 1.593 | - |

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604269N: <i>EA-18 Squadrons</i> |
|---|---|

| Congressional Add Details (\$ in Millions, and Includes General Reductions) | FY 2010 | FY 2011 |
|--|----------------|----------------|
| Congressional Add Subtotals for Project: 9999 | 1.593 | - |
| Congressional Add Totals for all Projects | 1.593 | - |

Change Summary Explanation

Technical: Not applicable.

Schedule: Operational Testing for Integrated Broadcast Service has moved to 4th Quarter FY2011 due to clarification of the Integrated Master Schedule.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604269N: <i>EA-18 Squadrons</i> | PROJECT 3063: <i>EA-18G Development</i> |
|---|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 3063: <i>EA-18G Development</i> | 53.939 | 22.042 | 17.100 | - | 17.100 | 13.136 | 15.619 | 16.374 | 16.507 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

The EA-18G is replacing the EA-6B aircraft. The EA-18G electronic attack upgrades the EA-6B (ALQ-218, ALQ-99, USQ-113) Airborne Electronic Attack (AEA) capability to detect, identify, locate and suppress hostile emitters; provide enhanced connectivity to National, Theater and Strike assets; and provide organic precision emitter targeting for employment of onboard suppression weapon, High-speed Anti-Radiation Missile family of weapons, to fulfill operational requirements. The performance of the aircraft is compatible with the primary strike/fighter aircraft projected to be in the inventory, allowing it to be fully integrated into specific strike packages. The EA-18G has the capability to operate autonomously or as a major node in a network-centric operation and is being designed to perform a range of Electronic Warfare/Electronic Attack functions either simultaneously or independently.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|---|-------------|------------|------------|
| <p>Title: EA-18G Design and Avionics Integration</p> <p align="right">Articles:</p> <p>Description: The EA-18G has the capability to operate autonomously or as a major node in a network-centric operation and is being designed to perform a range of Electronic Warfare/Electronic Attack functions either simultaneously or independently. Funding will be utilized for design and integration of avionics systems into the EA-18G.</p> <p>FY 2010 Accomplishments: Continued Air Vehicle design and integration of avionics into the EA-18G.</p> <p>FY 2011 Plans: Continue Air Vehicle design and integration of avionics into the EA-18G.</p> <p>FY 2012 Plans: Continue Air Vehicle design and integration of avionics into the EA-18G.</p> | 13.084 0 | 6.098 0 | 6.033 0 |
| <p>Title: EA-18G Software Development</p> <p align="right">Articles:</p> <p>Description: Funding will be utilized to develop to software capabilities for the EA-18G.</p> <p>FY 2010 Accomplishments:</p> | 30.156 0 | 9.514 0 | 7.009 0 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604269N: <i>EA-18 Squadrons</i> | PROJECT 3063: <i>EA-18G Development</i> |
|---|---|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|--|-------------|------------|------------|
| Continued software development of the EA-18G. FY 2011 Plans: Continue software development of the EA-18G. FY 2012 Plans: Continue software development of the EA-18G. | | | |
| Title: EA-18G Developmental & Operational Testing Description: Funding will be utilized to support required test phases of the EA-18G. FY 2010 Accomplishments: Continued operational test planning. FY 2011 Plans: Continue operational test planning. FY 2012 Plans: Continue operational test planning. | 10.699 0 | 6.430 0 | 4.058 0 |
| Articles: | | | |
| Accomplishments/Planned Programs Subtotals | 53.939 | 22.042 | 17.100 |

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> <u>Base</u> | <u>FY 2012</u> <u>OCO</u> | <u>FY 2012</u> <u>Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
|---|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| • APN/014300: <i>EA-18G</i> | 1,606.833 | 1,028.801 | 1,079.364 | 0.000 | 1,079.364 | 1,007.386 | 6.442 | 8.199 | 0.000 | 0.000 | 8,765.816 |
| • APN/05250: <i>F-18 Series (OSIP 011-10)</i> | 2.520 | 8.761 | 9.368 | 0.000 | 9.368 | 9.719 | 7.290 | 5.199 | 5.290 | 0.000 | 48.147 |

D. Acquisition Strategy

A sole source contract was awarded to Boeing (the platform manufacturer) for system design and development (SDD) under a Cost-Plus Incentive Fee/Award Fee (CPIF/AF) contract arrangement that provides incentives based on cost, schedule, and technical performance. Boeing has a subcontract with Northrop Grumman to incorporate Electronic Warfare/Electronic Attack systems into the Super Hornet. The contract has been structured to minimize the Navy's up-front investment and cancellation penalty, while reducing costs for the total program life cycle. In FY05, two F/A-18F's began modification with RDT&E funds to incorporate the Electronic Warfare/Electronic Attack systems for further development, integration, and testing. In FY06, an Engineering Change Proposal (using procurement funds) was incorporated into the SDD contract to procure the EA-18G unique airframe changes and AEA kits, respectively, for the 4 SDD aircraft. Also during FY06, groundwork

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy DATE: February 2011

| APPROPRIATION/BUDGET ACTIVITY | R-1 ITEM NOMENCLATURE | PROJECT |
|---|-------------------------------------|---------------------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | PE 0604269N: <i>EA-18 Squadrons</i> | 3063: <i>EA-18G Development</i> |

for the eight (8) Low Rate Initial Production (LRIP) aircraft was initiated and a Request For Proposal (RFP) was released prior to the Milestone C authorization and awarded in the fourth quarter FY07. During FY08, a RFP was generated and released prior to LRIP II Decision (DAB 30 April 08). Operational Evaluation started in September FY08 and was completed in May of FY09. FY09 was the last year for the SDD contract. The program achieved Full Rate Production (FRP) in November 2009. Contractual studies are underway for Operational Requirement Document core block II activities and those efforts will be integrated into the overall EA-18G plan/roadmap as resources permit.

E. Performance Metrics

Completion of FRP Delivery scheduled for 3rd Quarter FY2013.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604269N: <i>EA-18 Squadrons</i> | PROJECT 3063: <i>EA-18G Development</i> |
|---|---|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| GFE | WR | NSWC Det:Crane, IN | 2.080 | 0.005 | Feb 2011 | - | | - | | - | 0.020 | 2.105 | |
| Primary Hdw Dev (ALQ-99) | WR | NSWC Det:Crane, IN | 25.014 | - | | - | | - | | - | 0.000 | 25.014 | |
| Primary Hdw Dev (Aircraft) | SS/CPAF | Boeing:St. Louis, MO | 954.118 | 1.651 | Jan 2011 | 1.242 | Jan 2012 | - | | 1.242 | 0.000 | 957.011 | 957.011 |
| Primary Hdw Dev (Aircraft) | Various | Various:Various | 3.115 | 0.041 | Feb 2011 | - | | - | | - | 0.156 | 3.312 | |
| SDD Award Fee | SS/CPAF | Boeing:St. Louis, MO | 88.497 | - | | - | | - | | - | 0.000 | 88.497 | 88.497 |
| Systems Engineering | WR | NAWCAD:Lakehurst, NJ | 6.109 | 0.109 | Nov 2010 | - | | - | | - | 0.412 | 6.630 | |
| Systems Engineering | WR | NAWCAD:Pax River, MD | 29.227 | 1.169 | Nov 2010 | 0.748 | Nov 2011 | - | | 0.748 | 4.647 | 35.791 | |
| Systems Engineering | WR | NAWCWD:China Lake, CA | 79.482 | 1.248 | Nov 2010 | 0.799 | Nov 2011 | - | | 0.799 | 4.943 | 86.472 | |
| Systems Engineering | WR | NAWCWD:Pt. Mugu, CA | 48.583 | 0.637 | Nov 2010 | 0.484 | Nov 2011 | - | | 0.484 | 2.408 | 52.112 | |
| Systems Engineering | WR | NSCW Det:Crane, IN | 13.709 | 0.303 | Nov 2010 | 0.230 | Nov 2011 | - | | 0.230 | 1.144 | 15.386 | |
| Subtotal | | | 1,249.934 | 5.163 | | 3.503 | | - | | 3.503 | 13.730 | 1,272.330 | |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Integrated Logistics Support | WR | Various:Various | 4.226 | 0.650 | Nov 2010 | 0.494 | Nov 2011 | - | | 0.494 | 2.600 | 7.970 | |
| Software Development | SS/CPFF | Boeing:St. Louis, MO | 221.301 | 9.514 | Nov 2010 | 7.397 | Jan 2012 | - | | 7.397 | 22.961 | 261.173 | 261.173 |
| Subtotal | | | 225.527 | 10.164 | | 7.891 | | - | | 7.891 | 25.561 | 269.143 | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Developmental Test & Eval | MIPR | NASA Ames Research:CA | 3.016 | - | | - | | - | | - | 0.000 | 3.016 | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604269N: <i>EA-18 Squadrons</i> | PROJECT 3063: <i>EA-18G Development</i> |
|---|---|---|

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Developmental Test & Eval | MIPR | Various:Various | 2.382 | - | | - | | - | | - | 0.000 | 2.382 | |
| Developmental Test & Eval | WR | NAWCAD:Pax River, MD | 111.605 | 1.823 | Nov 2010 | 1.820 | Nov 2011 | - | | 1.820 | 7.997 | 123.245 | |
| Developmental Test & Eval | WR | NAWCWD:China Lake, CA | 88.849 | 2.324 | Nov 2010 | 2.018 | Nov 2011 | - | | 2.018 | 13.869 | 107.060 | |
| Operational Test & Eval | WR | COTF:Norfolk, VA | 9.546 | 0.283 | Nov 2010 | 0.220 | Nov 2011 | - | | 0.220 | 1.132 | 11.181 | |
| Subtotal | | | 215.398 | 4.430 | | 4.058 | | - | | 4.058 | 22.998 | 246.884 | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Contractor Engineering Support | Various | Various:Various | 11.784 | 0.428 | Nov 2010 | 0.321 | Nov 2011 | - | | 0.321 | 1.914 | 14.447 | |
| Government Engineering Support | WR | NAWCAD:Pax River, MD | 30.293 | 1.073 | Nov 2010 | 0.731 | Nov 2011 | - | | 0.731 | 4.491 | 36.588 | |
| Government Engineering Support | WR | Various:Various | 1.191 | - | | - | | - | | - | 0.000 | 1.191 | |
| Program Management Support | WR | NAWCAD:Pax River, MD | 21.601 | 0.632 | Nov 2010 | 0.480 | Nov 2011 | - | | 0.480 | 2.730 | 25.443 | |
| Program Management Support | WR | CNAF:Whidbey Island, WA | 0.150 | - | | - | | - | | - | 0.000 | 0.150 | |
| Travel | WR | Various:Various | 2.287 | 0.152 | Nov 2010 | 0.116 | Nov 2011 | - | | 0.116 | 0.666 | 3.221 | |
| Subtotal | | | 67.306 | 2.285 | | 1.648 | | - | | 1.648 | 9.801 | 81.040 | |

| | Total Prior Years Cost | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|------------------------|-----------|--------|--------------|--------|-------------|---|---------------|------------------|------------|--------------------------|
| Project Cost Totals | | 1,758.165 | 22.042 | | 17.100 | | - | 17.100 | 72.090 | 1,869.397 | |

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604269N: *EA-18 Squadrons*

PROJECT

3063: *EA-18G Development*

| EA-18G Development | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | | | | |
|-------------------------------|----------------|----|----|----|----------------------------|----|----|----|---------|----|----|----|--------------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|--|--|--|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | | | |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Systems Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hardware/Software | SDD Phase | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | IBS Dev & Demo | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reviews | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test & Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | Full Rate Production (FRP) | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contract Awards | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | LRIP 2 Delivery | | | | | | | | FRP Delivery | | | | | | | | | | | | | | | | | | |

2012PB - 0604269N - 3063

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604269N: <i>EA-18 Squadrons</i> | PROJECT 3063: <i>EA-18G Development</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| EA-18G Development | | | | |
| Systems Development: Hardware/Software: System Development & Demonstration Phase (SDD) | 1 | 2010 | 4 | 2010 |
| Systems Development: Hardware/Software: Integrated Broadcast System (IBS) Receiver Development and Demonstration Phase | 1 | 2010 | 4 | 2010 |
| Systems Development: Hardware/Software: IBS Receiver Operational Testing | 4 | 2011 | 1 | 2012 |
| Production Milestones: Full Rate Production | 4 | 2010 | 3 | 2013 |
| Production Milestones: Contract Awards: Full Rate Production (FRP) AEA Kit Award | 1 | 2010 | 1 | 2010 |
| Deliveries: Low Rate Initial Production II (LRIP 2 RDTEN) Delivery | 1 | 2010 | 4 | 2010 |
| Deliveries: FRP Delivery | 1 | 2011 | 3 | 2013 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604269N: <i>EA-18 Squadrons</i> | PROJECT 9999: <i>Congressional Adds</i> |
|---|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 9999: <i>Congressional Adds</i> | 1.593 | - | - | - | - | - | - | - | - | 0.000 | 1.593 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Congressional Add.

B. Accomplishments/Planned Programs (\$ in Millions)

| | | |
|--|---------|---------|
| Congressional Add: Next Generation Electronic Warfare Simulator | FY 2010 | FY 2011 |
| <i>FY 2010 Accomplishments:</i> Provided Radio Frequency threat generation capabilities for the EA-18G Advanced Weapons Laboratory Team to validate and verify the performance of mission critical Electronic Warfare Systems. | 1.593 | - |
| Congressional Adds Subtotals | 1.593 | - |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

Not required for Congressional Adds.

E. Performance Metrics

Not required for Congressional Adds.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604270N: <i>Electronic Warfare (EW) Dev</i> |
|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| Total Program Element | 107.394 | 80.819 | 89.418 | 5.600 | 95.018 | 52.963 | 38.040 | 37.762 | 26.266 | Continuing | Continuing |
| 0556: <i>EW Counter Response</i> | 32.319 | 24.287 | 20.222 | - | 20.222 | 19.858 | 20.337 | 20.779 | 20.900 | Continuing | Continuing |
| 1742: <i>EW Technical Development and T&E</i> | 4.106 | 4.799 | 1.784 | - | 1.784 | 1.702 | 1.649 | 1.552 | 1.542 | Continuing | Continuing |
| 2175: <i>Tactical Air Electronic Warfare</i> | 62.312 | 51.733 | 62.100 | - | 62.100 | 30.044 | 14.996 | 14.560 | 3.138 | Continuing | Continuing |
| 2260: <i>Specific Emitter ID</i> | 0.690 | - | - | - | - | - | - | - | - | 0.000 | 0.690 |
| 3327: <i>MAGTF EW Aviation Development</i> | - | - | 5.312 | 5.600 | 10.912 | 1.359 | 1.058 | 0.871 | 0.686 | Continuing | Continuing |
| 9999: <i>Congressional Adds</i> | 7.967 | - | - | - | - | - | - | - | - | 0.000 | 7.967 |

A. Mission Description and Budget Item Justification

This element includes development of Electronic Warfare (EW) systems for the United States Navy (USN), United States Marine Corps (USMC), and United States Army tactical aircraft, USMC helicopters, surface combatants, data link vulnerability assessments, precision targeting, USN and USMC radio frequency jammers, and development and testing of electronic warfare devices for emerging threats and emergency contingencies.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604270N: <i>Electronic Warfare (EW) Dev</i> |
|---|---|

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 105.193 | 80.819 | 77.804 | - | 77.804 |
| Current President's Budget | 107.394 | 80.819 | 89.418 | 5.600 | 95.018 |
| Total Adjustments | 2.201 | - | 11.614 | 5.600 | 17.214 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | 5.095 | - | | | |
| • SBIR/STTR Transfer | -2.638 | - | | | |
| • Program Adjustments | - | - | 13.245 | 5.600 | 18.845 |
| • Section 219 Reprogramming | -0.253 | - | - | - | - |
| • Rate/Misc Adjustments | - | - | -1.631 | - | -1.631 |
| • Congressional General Reductions Adjustments | -0.003 | - | - | - | - |

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 9999: *Congressional Adds*

- Congressional Add: *F/A18 Countermeasures Improvement*
- Congressional Add: *Small Survivable Jammer*
- Congressional Add: *PT Mugu Electronic Warfare Lab Upgrade*

Congressional Add Subtotals for Project: 9999

Congressional Add Totals for all Projects

| | FY 2010 | FY 2011 |
|---|----------------|----------------|
| | 3.983 | - |
| | 0.797 | - |
| | 3.187 | - |
| Congressional Add Subtotals for Project: 9999 | 7.967 | - |
| Congressional Add Totals for all Projects | 7.967 | - |

Change Summary Explanation

Technical:
 Project Unit 0556 / EW COUNTER RESPONSE: Not Applicable
 Project Unit 1742 / EW TECHNICAL DEVELOPMENT & T&E: Not Applicable
 Project Unit 2175 / TACTICAL AIR ELECTRONIC WARFARE: Not Applicable
 Project Unit 2260 / SPECIFIC EMITTER ID: Not Applicable
 Project Unit 3327 / MAGTF EW Aviation Development: Not Applicable.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy DATE: February 2011

| APPROPRIATION/BUDGET ACTIVITY | R-1 ITEM NOMENCLATURE |
|---|---|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | PE 0604270N: <i>Electronic Warfare (EW) Dev</i> |

Project Unit 9999 / CONGRESSIONAL ADD: Not Applicable

Schedule:

Project Unit 0556 / EW COUNTER RESPONSE: JATO Executive Steering Committee Reviews added to schedule for increased visibility. A shortage in availability of test aircraft resulted in ICAP III schedule delays. Test aircraft availability decreased from two to one aircraft during Block 4 testing causing delays to Block 4 and subsequent Block 5 and 6 Development Test/Operational Test (DT/OT). ICAP III Block 4 OT completion delayed from 2nd QTR 2010 to 4th QTR 2010. ICAP III Fleet Release moved from 3rd QTR 2010 to 4th QTR 2010. ICAP III Block 5 DT/OT completion delayed from 2nd QTR 2011 to 3rd QTR 2011. ICAP III Block 5 Fleet Release moved from 3rd QTR 2011 to 4th QTR 2011. ICAP III Block 6 Fleet Release moved from 2nd QTR 2013 to 3rd QTR 2013. ICAP III Block 7 DT/OT and Fleet Release added in 2014-2015.

Project Unit 1742 / EW TECHNICAL DEVELOPMENT & T&E: Not Applicable

Project Unit 2175 / TACTICAL AIR ELECTRONIC WARFARE: IDECM Block 2 (IB-2): Full Rate Production deliveries shown on schedule.

IDECM Block 3 (IB-3): The IB-3 schedule has been changed to reflect the completion of DT Flight Test. The completion of OT Flight Test has been moved to 2nd Qtr FY 2011. IB-3 Milestone III and Initial Operational Capability (IOC) have been moved to 3rd Qtr FY 2011

IDECM Block 4 (IB-4): Not Applicable

ALQ-214 Software Improvement: Initial Operational Capability (IOC) planned for 4th Qtr FY 2015. Test events and SW Dev efforts added to the schedule.

Project Unit 2260 / SPECIFIC EMITTER ID: Not Applicable

Project Unit 3327 / MAGTF EW Aviation Development: Not Applicable.

Project Unit 9999 / CONGRESSIONAL ADD: Not Applicable

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604270N: <i>Electronic Warfare (EW) Dev</i> | PROJECT 0556: <i>EW Counter Response</i> |
|---|---|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|----------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 0556: <i>EW Counter Response</i> | 32.319 | 24.287 | 20.222 | - | 20.222 | 19.858 | 20.337 | 20.779 | 20.900 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

This project develops upgrades to combat the increasingly complex and dense Electronic Warfare (EW) threat environment. The required improvements in Airborne Electronic Attack (AEA) will be achieved by applying state-of-the-art signal exploitation, processing, display techniques, improved tactics, and jamming capabilities.

These efforts include the continued development of Force Protection/Overseas Contingency Operations (OCO) (classified discussion available upon request) Navigation (NAV) and Information Operations (I/O) applications and enhanced communications jamming. The efforts under this project provide for electronic countermeasure responses to advanced threat weapon systems and C3 networks that are expanding in density and technical complexity. This project funds the continuing development and integration of all EW and Electronic Attack systems for the US Navy electronic attack aircraft including improvements within precision Direction of Arrival (DOA), geo-location, Specific Emitter Identification (SEI), auto-Electronic Support Measures (ESM), and selective reactive jamming.

The Improved Capability (ICAP) III test articles begun in FY 1999 were two EA-6B aircraft modified to support the ICAP III program and Low Band Transmitter (LBT) Engineering Development Models (EDMs). An EA-6B ICAP III aircraft will continue to be used as a test article during government test and evaluation of Multi Functional Information Distribution Systems/Link-16, LBT and other EW improvements. A requirement exists to allow the EA-6B to participate in various coordinated targeting scenarios such as Network Centric Warfare, Force Net, Improved Suppression of Enemy Air Defenses/Destruction of Enemy Air Defenses, and other strategic-and theatre-based DOD networks and strategies. Likewise, the ICAP III system shall be matured to enable the fusion and correlation of both organic and non-organic threat information to improve present sensor and targeting information to the theatre commander via coordinated efforts between other airborne, ground and ship-based operations. A method of implementing this requirement is to include the EA-6B on the Link-16 EW Network. Incorporation of the full EW Link-16 message set into the EA-6B and participation of the ICAP III within the Network Centric Warfare arena improves the Strike Group Commander's situational awareness. All efforts and system upgrades include the conversion of and transition from the Tactical EA-6B Mission Planning System (TEAMS) to the Joint Mission Planning System (JMPS), including development of EA-6B Unique Planning Modules.

The ALQ-99 LBT system provides an expanded war fighting capability against the early warning/acquisition radars and communication links of modern integrated air defense systems. The LBT entered Engineering and Manufacturing Development (EMD) in FY 1996, followed by Low Rate Initial Production (LRIP) in FY 2005, and achieved Full Rate Production (FRP) Milestone III approval in FY 2008.

Electronic Attack Jammer Techniques Optimization (JATO) and test support is required to address and counter new and evolving radar and communications threats in support of existing and emerging systems such as the EA-6B and EA-18G. JATO will continue to generate techniques, tactics, and procedures that will help to optimize the capabilities of existing weapon systems, and to assist in requirements definitions of emerging AEA systems.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604270N: <i>Electronic Warfare (EW) Dev</i> | PROJECT 0556: <i>EW Counter Response</i> |
|---|---|--|

The Airborne Electronic Attack Expendable (AEAE) provides an expanded war fighting capability, on an expendable host platform against EW threats including; Integrated Air Defenses, Command and Control Communications, and Datalinks through an open Electronic Attack Subsystem (EAS) interface specification . This flexible system allows rapid technology insertion and threat set adaptability that will address AEA capability and sufficiency gaps.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|-----------------------|-----------------------|-----------------------|----------------|-----------------------|
| <p>Title: ICAP III UPDATE</p> <p align="right">Articles:</p> <p>FY 2010 Accomplishments: Efforts will concentrate on completing the integration and enhancement of LINK-16 and ALQ-218 capabilities into the ICAP III aircraft as well as resolving any Operational Evaluation (OPEVAL)/Verification of Correction of Follow On Test and Evaluation (FOT&E) related deficiencies. ICAP III Block 4 weapon system includes integration of ALE-47 hardware and USQ-113 software improvements with a fleet release scheduled for 3rd QTR FY10. ICAP III Block 5 includes a robust software package designed to enhance functionality of the ALQ-218 and related EA-6B weapons systems. Development began in FY09 and continues until fielded.</p> <p>FY 2011 Plans: Efforts will concentrate on continuing the integration and enhancement of LINK-16 and ALQ-218 capabilities into the ICAP III aircraft as well as resolving any OPEVAL/Verification of Correction of FOT&E related deficiencies. Efforts will focus on fielding the improvements achieved in ICAP III Block 5 as well as begin the initial planning and development of ICAP III Block 6.</p> <p>FY 2012 Base Plans: Continue development, integration, and enhancement of Link-16 and ALQ-218 Capabilities into ICAP III Aircraft as well as resolving OPEVAL and FOT&E related deficiencies.</p> | <p>4.140</p> <p>0</p> | <p>6.376</p> <p>0</p> | <p>5.281</p> <p>0</p> | <p>-</p> | <p>5.281</p> <p>0</p> |
| <p>Title: MISSION PLANNING</p> <p align="right">Articles:</p> <p>FY 2010 Accomplishments: JMPS and associated EA-6B Unique Planning Components (UPC's) support ICAP III Block upgrades. These efforts will continue development of the JMPS components in direct support of the ICAP III system.</p> <p>FY 2011 Plans: JMPS and associated EA-6B UPC's support ICAP III Block upgrades. These efforts will continue development of the JMPS components in direct support of the ICAP III system. Mission Planning Environment framework continues development required to counter Microsoft Operating System obsolescence.</p> <p>FY 2012 Base Plans:</p> | <p>4.843</p> <p>0</p> | <p>3.893</p> <p>0</p> | <p>3.220</p> <p>0</p> | <p>-</p> | <p>3.220</p> <p>0</p> |

UNCLASSIFIED

UNCLASSIFIED

| | | | | | | |
|--|---|--|----------------------------|---------------------|--------------------|----------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | | DATE: February 2011 | | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604270N: <i>Electronic Warfare (EW) Dev</i> | PROJECT 0556: <i>EW Counter Response</i> | | | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | | | | | |
| | | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
| Continue development of all elements of the mission planning environment including UPC's, EA-6B Tactical Information & Report Management System and Electronic Warfare Development System. Mission Planning Environment will continue development of an upgrade operating framework. New framework required to counter Microsoft Operating System obsolescence. | | | | | | |
| Title: LINK 16 MESSAGE SETS AND DATA LINKS | | 0.778 | 1.145 | 0.953 | - | 0.953 |
| | Articles: | 0 | 0 | 0 | | 0 |
| FY 2010 Accomplishments: Continued development and testing of the Link-16 modification. These data link enhancements will enable the EA-6B ICAP III continued participation within Force Net and facilitate the EA contributions to the greater situational awareness allowed by Network Centric Warfare efforts. | | | | | | |
| FY 2011 Plans: Continue development and testing of the Link-16 modification. These data link enhancements will enable the EA-6B ICAP III continued participation within Force Net and facilitate the EA contributions to the greater situational awareness allowed by Network Centric Warfare efforts. | | | | | | |
| FY 2012 Base Plans: Continue development and testing of the Link-16 modification. These data link enhancements will enable the EA-6B ICAP III continued participation within Force Net and facilitate the EA contributions to the greater situational awareness allowed by Network Centric Warfare efforts. | | | | | | |
| Title: JAMMER TECHNIQUES OPTIMIZATION (JATO) | | 10.853 | 10.533 | 10.433 | - | 10.433 |
| | Articles: | 0 | 0 | 0 | | 0 |
| FY 2010 Accomplishments: Continued engineering development and test support required to address and counter new and evolving radar and communications threats in support of existing and emerging systems such as the EA-6B, EA-18G and NGJ. JATO generated techniques, tactics, and procedures to optimize the capabilities of ALQ-99 , ALQ-218, ALQ-227, ALQ-231, ALE-43 and ITALD-J systems, and assisted in requirements definitions of emerging AEA systems. JATO also continued to lead efforts in support of OCO and Force Protection issues. (Classified discussion available upon request.) | | | | | | |
| FY 2011 Plans: | | | | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604270N: <i>Electronic Warfare (EW) Dev</i> | PROJECT 0556: <i>EW Counter Response</i> |
|---|---|--|

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|------------|------------|--------------|-------------|---------------|
| <p>Continue engineering development and test support required to address and counter new and evolving radar and communications threats in support of existing and emerging systems such as the EA-6B, EA-18G and NGJ. JATO will continue to generate techniques, tactics, and procedures to optimize the capabilities of ALQ-99, ALQ-218, ALQ-227, ALQ-231, ALE-43 and Airborne Electronic Attack Expendable (AEAE) systems, and to assist in requirements definitions of emerging AEA systems. JATO also continues to lead efforts in support of OCO and Force Protection issues. (Classified discussion available upon request.)</p> <p>FY 2012 Base Plans: Continue engineering development and test support required to address and counter new and evolving radar and communications threats in support of existing and emerging systems such as the EA-6B and EA-18G. JATO will continue to generate techniques, tactics, and procedures to optimize the capabilities of ALQ-99, ALQ-218, ALQ-227, ALQ-231, ALE-43 and AEAE systems, and to assist in requirements definitions of emerging AEA systems. JATO also continues to lead efforts in support of OCO and Force Protection issues. (Classified discussion available upon request.)</p> | | | | | |
| <p>Title: Intrepid Tiger II (ALQ-231)</p> <p align="right">Articles:</p> <p>FY 2010 Accomplishments: Intrepid Tiger completed common AEA payload design and EDM pod assembly for the ALQ-231(V)1 Intrepid Tiger II. Systems level integration and testing initiated. Design documentation completed Systems Engineering technical reviews through Critical Design Review (CDR) and Test Readiness Review (TRR) for the prototype configuration. Successfully completed CORPORAL Technology Demonstration 1A (TD-1A).</p> <p>FY 2011 Plans: The ALQ-231 program will conduct combined DT/OT on Lot 1 deliveries. Further risk reduction for a sustainable AEA solution will be conducted.</p> | 8.155 0 | 0.340 0 | - | - | - |
| <p>Title: ITALD-J/ AEAE</p> <p align="right">Articles:</p> <p>FY 2010 Accomplishments: The ITALD-J project developed the AEA payload design for ADM-141 ITALD integration. EDM design has completed component specification and refined Techniques, Tactics and Procedures (TTPs) through simulation, analysis and testing in support of Technology Transition Initiative (TTI) efforts. Systems Engineering reviews</p> | 3.550 0 | 2.000 0 | 0.335 0 | - | 0.335 0 |

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604270N: <i>Electronic Warfare (EW) Dev</i> | PROJECT 0556: <i>EW Counter Response</i> |

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|--------------|-------------|---------------|
| <p>conducted through the System Requirements Review (SRR). ITALD A-Kit design completed initial survey and identified integration points to the legacy design. Initial logistics analysis and maintenance concepts developed.</p> <p>FY 2011 Plans: AEA payload/ITALD A-Kit and B-kit designs will be completed and payload captive carry flights will demonstrate system level operation and effectiveness. Mission planning tools will be completed with CONOP development supporting TTPs maturation. ECP and logistics support including Maintenance and Operation publications will be completed. EDM assets will be built to support ground and initial F-18 flight testing. Systems Engineering reviews will be conducted through the Flight Test Readiness Review. AEA Payload will be optimized for additional form factors and levels of integration. Risk Reduction for a long term, sustainable AEA solution will be conducted to include analysis, prototype and test for F/A-18 E/F carriage of the AEA payload in an Airborne Electronic Attack Expendable (AEAE) and other form factors to include networked connectivity and additional operational capabilities.</p> <p>FY 2012 Base Plans: The AEAE project will continue Risk Reduction including requirements scoping, Concept of Operations (CONOP) refinement, engineering analysis and data gathering on existing platforms such as the ADM-160 MALD or ATALD air vehicles for F/A-18 E/F carriage. Threat analysis and capability improvements for the Electronic Attack Subsystem (EAS) payload and threat effectiveness review will address Area of Regard (AOR) defined threat sets utilizing fleet operator inputs. Will conduct training, planning, supportability, and maintenance concept refinement.</p> | | | | | |
| Accomplishments/Planned Programs Subtotals | 32.319 | 24.287 | 20.222 | - | 20.222 |

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012 Base</u> | <u>FY 2012 OCO</u> | <u>FY 2012 Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To Complete</u> | <u>Total Cost</u> |
|---------------------------------|----------------|----------------|---------------------|--------------------|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| • APN/05110: <i>EA-6 Series</i> | 84.691 | 29.891 | 27.734 | 0.000 | 27.734 | 16.916 | 13.200 | 8.237 | 6.202 | 0.530 | 3,400.623 |
| • APN/05130: <i>AEA Systems</i> | 0.000 | 33.772 | 34.065 | 53.100 | 87.165 | 38.055 | 35.905 | 29.857 | 51.316 | 0.000 | 276.070 |

D. Acquisition Strategy

The ICAP III contract, an EMD Cost Plus Incentive Fee/Award Fee basic contract with two Fixed Price Incentive (FPI) production options, was awarded to a Northrop Grumman team in March 1998 following Milestone II after full and open competition. The contract was changed to a Cost Plus Award Fee contract in FY 1999. LRIP contract award was completed in FY 2003. A Milestone III Navy Program Decision Meeting was held on 23 September 2005. The Acquisition Decision Memorandum

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy DATE: February 2011

| APPROPRIATION/BUDGET ACTIVITY | R-1 ITEM NOMENCLATURE | PROJECT |
|---|---|----------------------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | PE 0604270N: <i>Electronic Warfare (EW) Dev</i> | 0556: <i>EW Counter Response</i> |

was signed by ASN RDA on 21 November 2005. A Firm Fixed Price Full Rate Production (FRP) contract for Lot 2, 4 ALQ-218 systems, was awarded in March 2006. The FRP Lot 3 contract for 7 ALQ-218 systems was awarded 11 April 2008. The FRP Lot 4 contract for 9 ALQ-218 systems was awarded in August 2008.

E. Performance Metrics

1. Successful completion of ICAP III Block 4 DT.
2. Continued development of ICAP III Block 5 sufficient to conduct a successful and on time development test.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604270N: <i>Electronic Warfare (EW) Dev</i> | PROJECT 0556: <i>EW Counter Response</i> |
|---|---|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Primary HDW Develop - ICAP III | C/FFP | Various:Various | 259.544 | 0.627 | Feb 2011 | 0.533 | Dec 2011 | - | | 0.533 | 2.200 | 262.904 | 262.904 |
| Studies & Analysis (Non FFRDC) | C/FFP | Various:Various | 1.043 | - | | - | | - | | - | 0.000 | 1.043 | 1.043 |
| Systems Engineering NR | WR | Naval Research Lab:Maryland | 3.802 | 0.531 | Nov 2010 | 0.446 | Dec 2011 | - | | 0.446 | 2.000 | 6.779 | |
| Systems Engineering NAWCAD | WR | NAWCAD:Patuxent River, MD | 14.702 | 3.027 | Nov 2010 | 2.294 | Nov 2011 | - | | 2.294 | 9.644 | 29.667 | |
| Systems Eng/BLK Update | WR | NAWCWD:Point Mugu, CA | 46.894 | 7.000 | Nov 2010 | 5.921 | Nov 2011 | - | | 5.921 | 24.707 | 84.522 | |
| Systems Engineering NSWC | WR | NSWC Det:Crane, IN | 7.346 | 0.912 | Dec 2010 | 0.755 | Dec 2011 | - | | 0.755 | 3.600 | 12.613 | |
| Systems Engineering VAR | WR | Various:Various | 11.130 | 1.733 | Dec 2010 | 1.112 | Dec 2011 | - | | 1.112 | 6.800 | 20.775 | |
| Subtotal | | | 344.461 | 13.830 | | 11.061 | | - | | 11.061 | 48.951 | 418.303 | |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Development Support - JATO | SS/FP | Johns Hopkins Univ:Maryland | 16.354 | 4.288 | Feb 2011 | 4.035 | Dec 2011 | - | | 4.035 | 13.644 | 38.321 | 38.321 |
| Eng & Tech Svc (Non FFRDC) | Various | Various:Various | 3.109 | 5.563 | Oct 2010 | 4.567 | Dec 2011 | - | | 4.567 | 19.000 | 32.239 | 32.239 |
| DFCS Installs | Various | Various:Various | 0.559 | - | | - | | - | | - | 0.000 | 0.559 | |
| ILS Pubs - ICAP III | WR | FRC:Jacksonville, FL | 0.809 | 0.464 | Dec 2010 | 0.424 | Dec 2011 | - | | 0.424 | 1.800 | 3.497 | |
| Subtotal | | | 20.831 | 10.315 | | 9.026 | | - | | 9.026 | 34.444 | 74.616 | |

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604270N: *Electronic Warfare (EW) Dev*

PROJECT

0556: *EW Counter Response*

| EW Counter Response | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | | | | |
|-------------------------------|---------|----|----|------------------------------------|---------|----|------------|------------------------------------|---------|----|------------|----|---------|----|------------|------------------------------------|---------|----|------------|----|---------|----|------------|----|---------|----|------------------------------------|----|--|--|------------|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | | | |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Milestones | | | | Fleet Release - ICAP III BLOCK 4 ▲ | | | | Fleet Release - ICAP III BLOCK 5 ▲ | | | | | | | | Fleet Release - ICAP III BLOCK 6 ▲ | | | | | | | | | | | Fleet Release - ICAP III BLOCK 7 ▲ | | | | |
| Systems Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hardware Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Software Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reviews | | | | | | | JATO ESC ■ | | | | JATO ESC ■ | | | | JATO ESC ■ | | | | JATO ESC ■ | | | | JATO ESC ■ | | | | JATO ESC ■ | | | | JATO ESC ■ |
| Test & Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Technical Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operational Evaluation | | | | ICAP III Block 4 OT | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | ICAP III Block 5 DT/OT | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | ICAP III Block 6 DT/OT | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | ICAP III Block 7 DT/OT | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contract Awards | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | Lot 3 Deliveries (Qty 7) | | | | Lot 4 Deliveries (Qty 9) | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604270N - 0556

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604270N: <i>Electronic Warfare (EW) Dev</i> | PROJECT 0556: <i>EW Counter Response</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| <i>EW Counter Response</i> | | | | |
| Acquisition Milestones: Milestones: Fleet Release - ICAP III BLOCK 4 | 4 | 2010 | 4 | 2010 |
| Acquisition Milestones: Milestones: Fleet Release - ICAP III BLOCK 5 | 4 | 2011 | 4 | 2011 |
| Acquisition Milestones: Milestones: Fleet Release - ICAP III BLOCK 6 | 3 | 2013 | 3 | 2013 |
| Acquisition Milestones: Milestones: Fleet Release - ICAP III BLOCK 7 | 2 | 2015 | 2 | 2015 |
| Systems Development: Reviews: JATO Executive Steering Committee 2011 | 3 | 2011 | 3 | 2011 |
| Systems Development: Reviews: JATO Executive Steering Committee 2012 | 3 | 2012 | 3 | 2012 |
| Systems Development: Reviews: JATO Executive Steering Committee 2013 | 3 | 2013 | 3 | 2013 |
| Systems Development: Reviews: JATO Executive Steering Committee 2014 | 3 | 2014 | 3 | 2014 |
| Systems Development: Reviews: JATO Executive Steering Committee 2015 | 3 | 2015 | 3 | 2015 |
| Systems Development: Reviews: JATO Executive Steering Committee 2016 | 3 | 2016 | 3 | 2016 |
| Test & Evaluation: Operational Evaluation: ICAP III Block 4 OT | 2 | 2010 | 4 | 2010 |
| Test & Evaluation: Operational Evaluation: ICAP III Block 5 DT/OT | 3 | 2010 | 3 | 2011 |
| Test & Evaluation: Operational Evaluation: ICAP III Block 6 DT/OT | 3 | 2012 | 2 | 2013 |
| Test & Evaluation: Operational Evaluation: ICAP III Block 7 DT/OT | 1 | 2014 | 1 | 2015 |
| Deliveries: ICAP III - Lot 3 FRP Deliveries (Qty 7) | 2 | 2010 | 1 | 2011 |
| Deliveries: ICAP III - Lot 4 FRP Deliveries (Qty 9) | 2 | 2011 | 1 | 2012 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604270N: <i>Electronic Warfare (EW) Dev</i> | PROJECT 1742: <i>EW Technical Development and T&E</i> |
|---|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 1742: <i>EW Technical Development and T&E</i> | 4.106 | 4.799 | 1.784 | - | 1.784 | 1.702 | 1.649 | 1.552 | 1.542 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Project Unit 1742 EW Technical Development and T&E funds efforts that focus on the quick reaction prototyping of tactical information and electronic warfare systems. This program directly addresses various fleet requirements across multiple platforms (airborne, surface and subsurface), airborne and surface cryptologic operational requirements documents and the joint oversight council missions needs statement for information warfare and electronic warfare systems and capabilities. These systems/capabilities provide information dominance to friendly forces during conflict, which is necessary for successful mission accomplishment.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|------------|------------|--------------|-------------|---------------|
| <p>Title: EW Technical Development and T&E</p> <p align="right">Articles:</p> | 0.402 0 | 0.420 0 | - | - | - |
| <p>FY 2010 Accomplishments: Continued airborne Information Warfare jammer development, test, and evaluation to include ancillary equipment, cabling, hardware, antennas and installation on prototype aircraft.</p> <p>FY 2011 Plans: Complete airborne Information Warfare jammer development, test, and evaluation to include ancillary equipment, cabling, hardware, antennas and installation on prototype aircraft.</p> | | | | | |
| <p>Title: EW Technical Development Studies & Analysis</p> <p align="right">Articles:</p> | 2.534 0 | 2.715 0 | 1.454 0 | - | 1.454 0 |
| <p>FY 2010 Accomplishments: Continued studies and vulnerability analysis on emerging/changing threats/targets for EW programs.</p> <p>FY 2011 Plans: Continue studies and vulnerability analysis on emerging/changing threats/targets for EW programs.</p> <p>FY 2012 Base Plans: Continue studies and vulnerability analysis on emerging/changing threats/targets for EW programs. Dedicated Testbed for purposes of reverse engineering will no longer be funded.</p> | | | | | |
| <p>Title: EW Technical Development/Develop and Systems Integration</p> | 0.598 | 1.152 | - | - | - |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604270N: <i>Electronic Warfare (EW) Dev</i> | PROJECT 1742: <i>EW Technical Development and T&E</i> |
|---|---|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|------------|------------|--------------|-------------|---------------|
| <p align="right">Articles:</p> <p>FY 2010 Accomplishments: Continued developing EW capabilities in accordance with Fleet Forces Command and prioritized signal requirements that are first to be integrated into existing MCS-21 EW systems and deployed on air and surface platforms.</p> <p>FY 2011 Plans: Continue developing EW capabilities in accordance with Fleet Forces Command and prioritize signals that are first to be integrated into existing MCS-21 EW systems and deployed on air and surface platforms.</p> | 0 | 0 | | | |
| <p>Title: EW Technical Development/Program Management Support</p> <p align="right">Articles:</p> <p>FY 2010 Accomplishments: Continued to fund necessary travel expenses and training to support the Research & Development projects as well as acquisition expenses in support of the program management office.</p> <p>FY 2011 Plans: Continue funding necessary travel expenses and training to support the Research & Development projects as well as acquisition expenses in support of the program management office.</p> <p>FY 2012 Base Plans: Continue funding necessary travel expenses and training to support the Research & Development projects as well as acquisition expenses in support of the program management office.</p> | 0.572 0 | 0.512 0 | 0.330 0 | - | 0.330 0 |
| Accomplishments/Planned Programs Subtotals | 4.106 | 4.799 | 1.784 | - | 1.784 |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

The Navy Information Operations Command (NIOC) Suitland is granted streamlined acquisition authority for the development of classified prototypes and special capabilities under the DASN(C4I).

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604270N: <i>Electronic Warfare (EW) Dev</i> | PROJECT 1742: <i>EW Technical Development and T&E</i> |

E. Performance Metrics

NIOC serves as the Program Management Office of the EW Technical Development and Information Warfare (IW) program. As such, NIOC Suitland is tasked as the Navy's principal technical agent to research, assess, and develop EW/IW capabilities.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604270N: <i>Electronic Warfare (EW) Dev</i> | PROJECT 1742: <i>EW Technical Development and T&E</i> |
|---|---|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Primary Hardware Development | C/CPFF | Classified:Various | 3.604 | - | Oct 2010 | - | | - | | - | Continuing | Continuing | Continuing |
| Aircraft Integration | WR | NAWC CL:China Lake, CA | 1.395 | 0.205 | Oct 2010 | - | | - | | - | Continuing | Continuing | Continuing |
| Subtotal | | | 4.999 | 0.205 | | - | | - | | - | | | |

Remarks
Continue studies for the development of EW/IW capabilities, test and evaluation to include ancillary equipment, cabling, hardware, antennas and installation on prototype aircraft and other Navy platforms. Current capabilities installation is planned for installation on final special prototype aircraft in FY11.

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Development Support | C/CPFF | Classified:Various | 2.189 | 0.798 | Oct 2010 | 0.279 | Oct 2011 | - | | 0.279 | Continuing | Continuing | Continuing |
| Software Development | C/CPFF | Classified:Various | 2.866 | 1.078 | Oct 2010 | 0.202 | Oct 2011 | - | | 0.202 | Continuing | Continuing | Continuing |
| Studies & Analyses | Various | Classified:Various | 5.772 | 2.202 | Nov 2010 | 0.950 | Nov 2011 | - | | 0.950 | Continuing | Continuing | Continuing |
| Subtotal | | | 10.827 | 4.078 | | 1.431 | | - | | 1.431 | | | |

Remarks
Conduct studies and vulnerability analysis on emerging threats/targets for Electronic Warfare (EW) programs.

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Developmental Test & Evaluation | WR | NRL:Washington, DC | 2.890 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Subtotal | | | 2.890 | - | | - | | - | | - | | | |

Remarks
Supports the development of technical test plans and techniques for developed capabilities at various test facilities for multiple navy platforms.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604270N: <i>Electronic Warfare (EW) Dev</i> | PROJECT 1742: <i>EW Technical Development and T&E</i> |
|---|---|---|

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Program Management Support | Various | Classified:Various | 0.696 | 0.209 | Oct 2010 | 0.156 | Oct 2011 | - | | 0.156 | Continuing | Continuing | Continuing |
| Travel | WR | NIOC:Washington DC | 1.081 | 0.307 | Oct 2010 | 0.197 | Oct 2011 | - | | 0.197 | Continuing | Continuing | Continuing |
| Acquisition Workforce Fund - 2009 | Various | Various:Various | 0.026 | - | | - | | - | | - | 0.000 | 0.026 | |
| Subtotal | | | 1.803 | 0.516 | | 0.353 | | - | | 0.353 | | | |

Remarks
Provides for official travel and training expenses and miscellaneous consumables for the program management office.

| | Total Prior Years Cost | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|-------------------------------|----------------|--|---------------------|--|--------------------|--|----------------------|-------------------------|-------------------|---------------------------------|
| Project Cost Totals | 20.519 | 4.799 | | 1.784 | | - | | 1.784 | | | |

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604270N: <i>Electronic Warfare (EW) Dev</i> | PROJECT 1742: <i>EW Technical Development and T&E</i> |
|---|---|---|

| Proj 1742 | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|--------------------------------|------------------------|----|----|----|---------|----|----|---|---------|----|----|----|---------------------------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|---------------------------|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q |
| ELECTRONIC WARFARE | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fixed Site Delivery | | | | | | | | MCS-21 Ground Component (V2) Site Acceptance Test ▲ | | | | | | | | | | | | | | | | | | | | |
| Countermeasure Test Date | | | | | | | | FAT (Incr F) DT (Incr F) ▲ | | | | | CM Test #3 ▲ | | | | | | | | | | | | | | | |
| Test Support (NRL) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EW CM Capabilities | CM Development ▲ | | | | | | | | | | | | CM Delivery #4 ▲ | | | | | | | | | | | | | | | CM Delivery #6 ▲ |
| Vulnerability Analysis Studies | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604270N - 1742

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604270N: <i>Electronic Warfare (EW) Dev</i> | PROJECT 1742: <i>EW Technical Development and T&E</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 1742 | | | | |
| ELECTRONIC WARFARE: Fixed Site Delivery: Fixed Site Delivery #3 | 4 | 2011 | 4 | 2011 |
| Countermeasure Test Date: Countermeasure Delivery #3 | 4 | 2011 | 4 | 2011 |
| Countermeasure Test Date: Countermeasure Test #3 | 4 | 2012 | 4 | 2012 |
| Test Support (NRL): Test Support (NRL) | 1 | 2010 | 4 | 2011 |
| EW CM Capabilities: Countermeasure Delivery #4 | 4 | 2012 | 4 | 2012 |
| EW CM Capabilities: Countermeasure Development | 1 | 2010 | 1 | 2010 |
| EW CM Capabilities: Countermeasure Delivery #5 | 4 | 2014 | 4 | 2014 |
| EW CM Capabilities: Countermeasure Delivery #6 | 4 | 2016 | 4 | 2016 |
| Vulnerability Analysis Studies: Vulnerability Analysis Studies | 1 | 2010 | 4 | 2016 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604270N: <i>Electronic Warfare (EW) Dev</i> | PROJECT 2175: <i>Tactical Air Electronic Warfare</i> |
|---|---|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 2175: <i>Tactical Air Electronic Warfare</i> | 62.312 | 51.733 | 62.100 | - | 62.100 | 30.044 | 14.996 | 14.560 | 3.138 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Integrated Defensive Electronic Countermeasures (IDECM) Block 3 (IB-3) introduced the new Fiber Optic Towed Decoy (FOTD) capability to the IDECM Block 2 Electronic Warfare (EW) Suite as a replacement for the ALE-50 decoy. The FOTD, when integrated with the rest of the F/A-18E/F EW suite (i.e., ALQ-214, ALR-67(V)3, ALE-47 and ALE-50), the associated cockpit controls, displays and other avionics significantly improves the survivability of the host aircraft in a Radio Frequency (RF) threat environment. Initial Operational Test & Evaluation (IOT&E) found IB-3 effective, not suitable. Verification of Correction to Deficiencies (VCD) identified during IOT&E is required. VCD activities are underway and are planned to conclude in 2nd Qtr FY 2011.

IDECM Block 4 (IB-4) is an Engineering Change Proposal (ECP) to the ALQ-214 to render it suitable for operation on F/A-18C/D aircraft (replacing the ALQ-126B and significantly improving F/A-18C/D survivability) while retaining all IDECM suite functionality when installed on F/A-18E/F aircraft. The IB-4 acquisition and contract strategy includes development of the Common On-Board-Jammer for the F/A-18 C/D/E/F aircraft through sole source contract awards for modifications to the ALQ-214. IB-4, ALQ-214 ECP, efforts include hardware and software design, development and test, delivery of 18 Engineering Development Models (EDMs), integration and testing on the host aircraft. The F/A-18C/D EW Suite includes the ALR-67(V)2 Radar Warning Receiver (RWR), the ALE-47 Countermeasures Dispensing Set (CMDS), the mission computer and other avionics. In addition to performing the RWR function, the ALR-67(V)2 is the EW Bus Controller. The EW Bus is the primary interface between the EW Systems (Jammer, RWR, and CMDS). The mission computer is the Avionics Bus Controller, the interface between the EW suite and other avionics.

ALQ-214 Software Improvement will provide the ALQ-214 with DRFM deny-delay, technique capability significantly improving F/A-18C/D/E/F survivability. Acquisition and contract strategy includes development, integration and test of the ALQ-214 software improvements through sole-source contract award. Minor modification to other avionics may be required in order to integrate this new capability. These other avionics may include, but are not limited to, the ALR-67(V)2, ALR-67(V)3, ALE-47, ALE-50, ALE-55, Mission Computer and Fire Control Radar.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|--------------|-------------|---------------|
| Title: Tactical Air Electronic Warfare | 62.312 | 51.733 | 62.100 | - | 62.100 |
| Articles: | 6 | 6 | 0 | | 0 |
| FY 2010 Accomplishments: | | | | | |

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604270N: <i>Electronic Warfare (EW) Dev</i> | PROJECT 2175: <i>Tactical Air Electronic Warfare</i> |

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|----------------|----------------|---------------------|--------------------|----------------------|
| FY10: The IDECM Block 4, ALQ-214 ECP engineering effort was awarded in December 2009 to ITT Electronic Systems and includes the final design, development, integration and test of 18 Engineering and Manufacturing Development (EMD) units. The contract is planned to continue through FY13. FY 2011 Plans: FY11 Base: The IDECM Block 4, ALQ-214 ECP engineering effort will continue into FY11. In addition, engineering and logistics support with laboratory testing will begin in FY11. FY 2012 Base Plans: The IDECM Block 4, ALQ-214 ECP engineering effort will continue into FY12 and will include engineering and logistics support and flight testing. The ALQ-214 Software Improvement contract is planned for award to include development, integration and test of the ALQ-214 with DRFM deny-delay, technique capability. | | | | | |
| Accomplishments/Planned Programs Subtotals | 62.312 | 51.733 | 62.100 | - | 62.100 |

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012 Base</u> | <u>FY 2012 OCO</u> | <u>FY 2012 Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To Complete</u> | <u>Total Cost</u> |
|---|----------------|----------------|---------------------|--------------------|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| • APN/0576 1: <i>IDECM</i> | 41.924 | 18.942 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 268.501 |
| • APN/0576 2: <i>Common On-Board Jammer</i> | 0.000 | 0.000 | 65.772 | 0.000 | 65.772 | 73.991 | 89.449 | 96.090 | 141.498 | 54.559 | 521.359 |
| • PANMC/0182: <i>Airborne Expendable CM</i> | 23.924 | 19.041 | 20.248 | 0.000 | 20.248 | 21.270 | 21.912 | 22.614 | 23.015 | 719.716 | 982.206 |

D. Acquisition Strategy

IDECM Block 3 (IB-3) sole source award of Full Rate Production (FRP) in FY 2011. Annual IB-3 production contracts will continue through FY 2041. The ALQ-214 ECP effort was awarded sole source to ITT Electronic Systems in December 2009. The contract is planned to continue through FY 2013. ALQ-214 Software Improvement acquisition is planned via sole-source award to ITT. ITT is the original developer/manufacturer and current sustainer of the ALQ-214.

E. Performance Metrics

IDECM Block 3: Successfully complete Verification of Correction to Deficiencies (VCD) Operational Test in 2nd Qtr FY 2011. Successfully achieve Milestone III in 3rd Qtr FY 2011. Successfully achieve Initial Operational Capability (IOC) in 3rd Qtr FY 2011.

IDECM Block 4: Successfully conduct In-Process Review 3 (Production Cut-In 1) in 1st Qtr FY 2012.

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604270N: <i>Electronic Warfare (EW) Dev</i> | PROJECT 2175: <i>Tactical Air Electronic Warfare</i> |

ALQ-214 Software Improvement: Successfully award a software development contract in 1st Qtr FY 2012.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604270N: <i>Electronic Warfare (EW) Dev</i> | PROJECT 2175: <i>Tactical Air Electronic Warfare</i> |
|---|---|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Aircraft Integration-IDECM | Various | Various:Various | 70.761 | - | | - | | - | | - | 0.000 | 70.761 | |
| Aircraft Integration-IDECM Boeing | SS/CPFF | Boeing:St. Louis, MO | 2.305 | 4.974 | Mar 2011 | 3.450 | Mar 2012 | - | | 3.450 | 0.000 | 10.729 | 10.729 |
| Primary Hdw Dev AAR-47 FY07 SUPP ATK | SS/CPFF | ATK Missile:Clearwater, FL | 16.000 | - | | - | | - | | - | 0.000 | 16.000 | 16.000 |
| Primary Hdw Dev AAR-47 FY07 SUPP AFB | MIPR | AFB:Eglin, FL | 2.100 | - | | - | | - | | - | 0.000 | 2.100 | |
| Primary Hdw Dev AAR-47 FY07 SUPP NVS | MIPR | NVS:Fort Belvoir, VA | 0.064 | - | | - | | - | | - | 0.000 | 0.064 | |
| Primary Hdw Dev - IDECM ITT | SS/FFP | ITT:Clifton, NJ | 56.767 | 34.258 | Nov 2010 | 19.286 | Dec 2011 | - | | 19.286 | 0.000 | 110.311 | 110.311 |
| Ship Suitability AAR-47 | WR | NAWCAD:Pax River, MD | 0.050 | - | | - | | - | | - | 0.000 | 0.050 | |
| Studies & Analysis DRFM (CONG) | MIPR | NUWC:Keyport, WA | 0.018 | - | | - | | - | | - | 0.000 | 0.018 | |
| Systems Eng - IDECM BAE | SS/CPFF | BAE Systems:Nashua, NH | 14.552 | - | | - | | - | | - | 0.000 | 14.552 | 14.552 |
| Systems Eng - IDECM | SS/CPFF | Various:Various | 62.783 | 4.952 | Mar 2011 | 5.398 | Mar 2012 | - | | 5.398 | Continuing | Continuing | Continuing |
| Systems Eng - IDECM Raytheon | SS/CPFF | Raytheon:Goleta, CA | 0.268 | - | | - | | - | | - | 0.000 | 0.268 | 0.268 |
| Risk Reduction DRFM (CONG) | SS/CPFF | ITT:Clifton, NJ | 1.810 | - | | - | | - | | - | 0.000 | 1.810 | 1.810 |
| Risk Reduction IDECM ITT1 | SS/CPFF | ITT:Clifton, NJ | 2.495 | - | | - | | - | | - | 0.000 | 2.495 | 2.495 |
| Risk Reduction IDECM ITT2 | SS/FP | ITT:Clifton, NJ | 7.505 | - | | - | | - | | - | 0.000 | 7.505 | 7.505 |
| Subtotal | | | 237.478 | 44.184 | | 28.134 | | - | | 28.134 | | | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604270N: <i>Electronic Warfare (EW) Dev</i> | PROJECT 2175: <i>Tactical Air Electronic Warfare</i> |
|---|---|--|

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Dev/Eng Supt AAR-47 (Non-FFRDC) | WR | NRL:Washington, DC | 0.343 | - | | - | | - | | - | 0.000 | 0.343 | |
| Dev/Eng Supt AAR-47 | WR | Various:Various | 0.220 | - | | - | | - | | - | 0.000 | 0.220 | |
| Software Dev - IDECM | WR | Various:Various | 6.843 | - | | - | | - | | - | 0.000 | 6.843 | |
| Integrated Log Supt AAR-47 | SS/CPFF | ATK Missile:Clearwater, FL | 0.650 | - | | - | | - | | - | 0.000 | 0.650 | 0.650 |
| Software Dev AAR-47 | SS/CPFF | ATK Missile:Clearwater, FL | 0.171 | - | | - | | - | | - | 0.000 | 0.171 | 0.171 |
| Integrated Log Supt - IDECM | WR | FRC-SE:Jacksonville, FL | 0.293 | 0.139 | Dec 2010 | 0.143 | Dec 2011 | - | | 0.143 | 0.000 | 0.575 | |
| MSS - IDECM (Non-FFRDC) | SS/CPFF | FRC-SE:Jacksonville, FL | 0.200 | - | | - | | - | | - | 0.000 | 0.200 | 0.200 |
| Software Dev-ALQ-214 SW Dev | SS/CPFF | ITT:Clifton, NJ | - | - | | 9.276 | Mar 2012 | - | | 9.276 | Continuing | Continuing | Continuing |
| Software Dev-ALQ-214 SW Dev | SS/CPFF | Various:Various | - | - | | 4.997 | Mar 2012 | - | | 4.997 | Continuing | Continuing | Continuing |
| Subtotal | | | 8.720 | 0.139 | | 14.416 | | - | | 14.416 | | | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Dev Test & Eval Supt AAR-47 | WR | NRL:Washington, DC | 0.270 | - | | - | | - | | - | 0.000 | 0.270 | |
| Dev Test & Eval Supt ALQ-214 SW Imp | WR | Various:Various | - | - | | 0.477 | Dec 2011 | - | | 0.477 | Continuing | Continuing | Continuing |
| IDECM Test Supt (OPTEVFOR) | WR | Oper T&E for CD 30:VA | 4.048 | - | | - | | - | | - | 0.000 | 4.048 | |
| IDECM Test Supt (Non-FFRDC) | SS/CPFF | Various:Various | 1.486 | - | | - | | - | | - | 0.000 | 1.486 | 1.486 |
| Live Fire Test & Eval AAR-47 | WR | NRL:Washington, DC | 0.508 | - | | - | | - | | - | 0.000 | 0.508 | |
| | WR | NRL:Washington, DC | 0.100 | - | | - | | - | | - | 0.000 | 0.100 | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604270N: <i>Electronic Warfare (EW) Dev</i> | PROJECT 2175: <i>Tactical Air Electronic Warfare</i> |
|---|---|--|

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Operational Test & Eval AAR-47 | | | | | | | | | | | | | |
| Oper Test & Eval ALQ-214 SW Imp | WR | Various:Various | - | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Studies & Analysis (Non-FFRDC) (CONG) | SS/CPFF | John Hopkins Un:Laurel, MD | 0.774 | - | | - | | - | | - | 0.000 | 0.774 | 0.774 |
| Flight Test - IDECM | WR | Various:Various | - | 0.979 | Jan 2011 | 2.592 | Dec 2011 | - | | 2.592 | Continuing | Continuing | Continuing |
| Flight Test- IDECM | WR | NAWCWD:China Lake, CA | - | - | | 8.646 | Dec 2011 | - | | 8.646 | 0.000 | 8.646 | |
| Subtotal | | | 7.186 | 0.979 | | 11.715 | | - | | 11.715 | | | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| AAR-47 Travel | Allot | NAVAIR:Pax River, MD | 0.050 | - | | - | | - | | - | 0.000 | 0.050 | |
| Prog Mgmt DRFM | WR | NAWCAD:Pax River, MD | 0.002 | - | | - | | - | | - | 0.000 | 0.002 | |
| PM Supt DRFM (Non-FFRDC) | SS/CPFF | Amelex:California, MD | 0.146 | - | | - | | - | | - | 0.000 | 0.146 | 0.146 |
| Prog Mgmt Supt DRFM (CONG) | WR | NAWCAD:Pax River, MD | 0.234 | - | | - | | - | | - | 0.000 | 0.234 | |
| Mgt & Prof Supt Srvc-IDECD (Non-FFRDC) | SS/CPFF | Amelex:California, MD | 0.404 | 0.165 | Jan 2011 | - | | - | | - | 0.000 | 0.569 | 0.569 |
| Prog Mgmt Supt - IDECD | WR | Various:Various | 19.882 | 0.521 | Dec 2010 | 0.537 | Dec 2011 | - | | 0.537 | 0.000 | 20.940 | |
| Prog Mgmt Supt (Non-FFRDC) | SS/CPFF | DPA, Inc.:Arlington, VA | 0.077 | - | | - | | - | | - | 0.000 | 0.077 | 0.077 |
| Travel - IDECD | Allot | Various:Various | 0.104 | - | | - | | - | | - | 0.000 | 0.104 | |
| Travel - IDECD NAWCAD | Allot | NAWCAD:Pax River, MD | 0.224 | - | | - | | - | | - | 0.000 | 0.224 | |
| Travel | Allot | NAWCAD:Pax River, MD | 0.305 | 0.150 | Oct 2010 | 0.150 | Oct 2011 | - | | 0.150 | Continuing | Continuing | Continuing |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604270N: <i>Electronic Warfare (EW) Dev</i> | PROJECT 2175: <i>Tactical Air Electronic Warfare</i> |
|---|---|--|

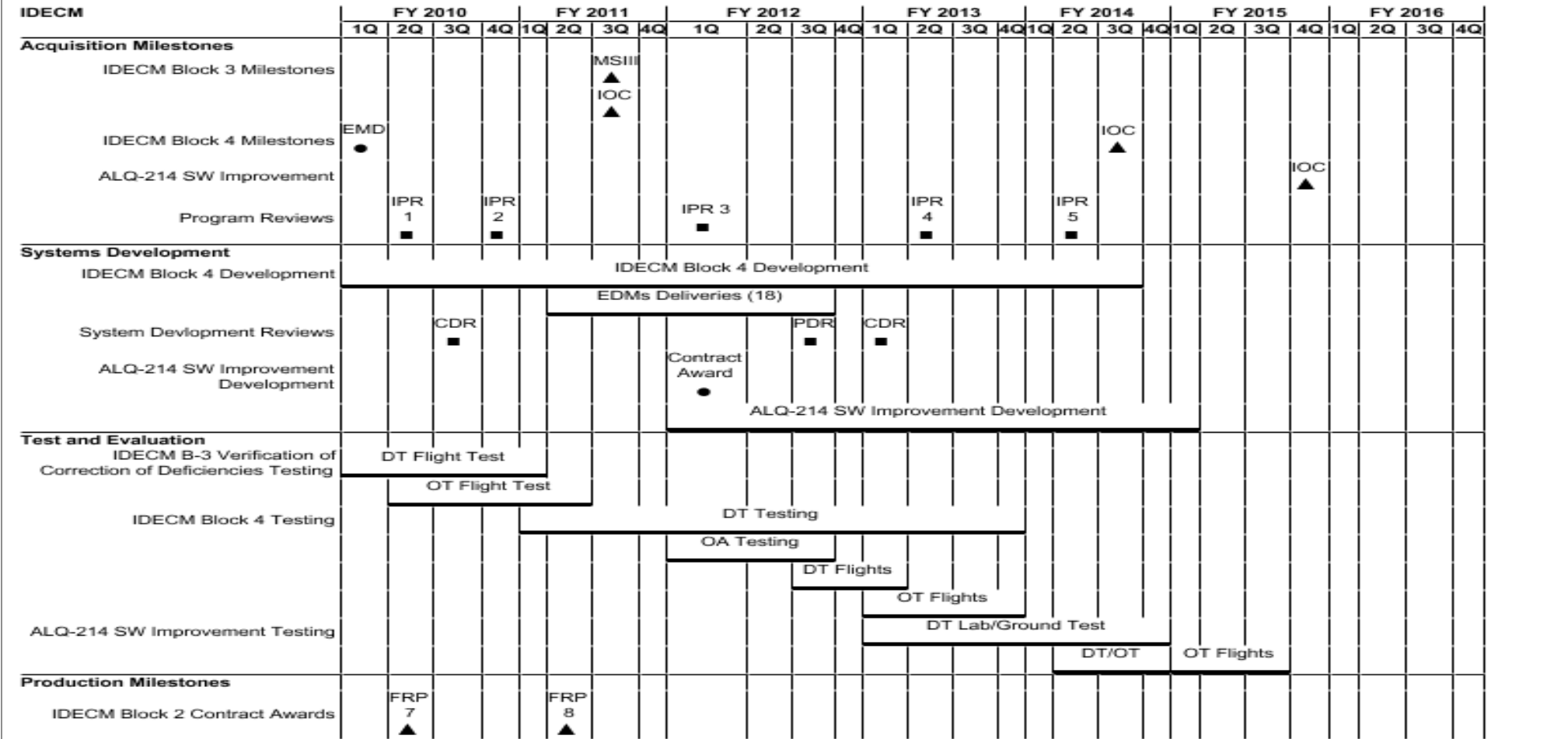
| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|-----------------|------------|----------------|------------|------------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Impact Fees | WR | NAWCAD:Pax River, MD | 0.032 | - | | - | | - | | - | 0.000 | 0.032 | |
| Eng Supt - IDECM NAWCAD | WR | NAWCWD:China Lake, CA | 9.547 | - | | - | | - | | - | 0.000 | 9.547 | |
| Eng Supt - IDECM | WR | Various:Various | 32.505 | - | | - | | - | | - | 0.000 | 32.505 | |
| Eng/Log Supt - DRFM (CONG) VAR | WR | Various:Various | 0.524 | - | | - | | - | | - | 0.000 | 0.524 | |
| Eng/Log Supt - DRFM (CONG) NAWCAD | WR | NAWCAD:Pax River, MD | 0.713 | - | | - | | - | | - | 0.000 | 0.713 | |
| Eng/Log Supt - DRFM (CONG) DTIC | MIPR | DTIC:Fort Belvoir, VA | 0.067 | - | | - | | - | | - | 0.000 | 0.067 | |
| Eng/Log Supt - DRFM NAWCAD | WR | NAWCAD:Pax River, MD | 0.120 | - | | - | | - | | - | 0.000 | 0.120 | |
| Eng/Log Supt - DRFM | WR | Various:Various | 0.420 | - | | - | | - | | - | 0.000 | 0.420 | |
| Eng/Log Supt - IDECM NAWCAD | WR | NAWCAD:Pax River, MD | 1.150 | 1.806 | Dec 2010 | 1.801 | Dec 2011 | - | | 1.801 | Continuing | Continuing | Continuing |
| Eng/Log Supt - IDECM | WR | Various:Various | 2.299 | 3.171 | Dec 2010 | 4.697 | Dec 2011 | - | | 4.697 | Continuing | Continuing | Continuing |
| Eng/Log Supt - DRFM (CONG) NRL | WR | NRL:Washington, DC | 0.375 | - | | - | | - | | - | 0.000 | 0.375 | |
| Eng/Log Supt - DRFM (CONG) FRCSE | WR | FRC-SE:Jacksonville, FL | 0.050 | - | | - | | - | | - | 0.000 | 0.050 | |
| Eng/Log Supt - IDECM FRCSE | WR | FRC-SE:Jacksonville, FL | 0.158 | - | | - | | - | | - | 0.000 | 0.158 | |
| Eng & Tech Svcs (Non-FFRDC) L3 | SS/CPFF | L-3/Titan:California, MD | 0.448 | - | | - | | - | | - | 0.000 | 0.448 | 0.448 |
| Eng & Tech Svcs (Non-FFRDC) NRL | SS/CPFF | NRL:Washington, DC | 0.236 | 0.243 | Dec 2010 | 0.250 | Dec 2011 | - | | 0.250 | 0.000 | 0.729 | 0.729 |
| Eng & Tech Svcs (Non-FFRDC) | SS/CPFF | COTF:Norfolk, VA | 0.335 | 0.375 | Feb 2011 | 0.400 | Dec 2011 | - | | 0.400 | 0.000 | 1.110 | 1.110 |
| Subtotal | | | 70.407 | 6.431 | | 7.835 | | - | | 7.835 | | | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604270N: <i>Electronic Warfare (EW) Dev</i> | PROJECT 2175: <i>Tactical Air Electronic Warfare</i> |
|---|---|--|

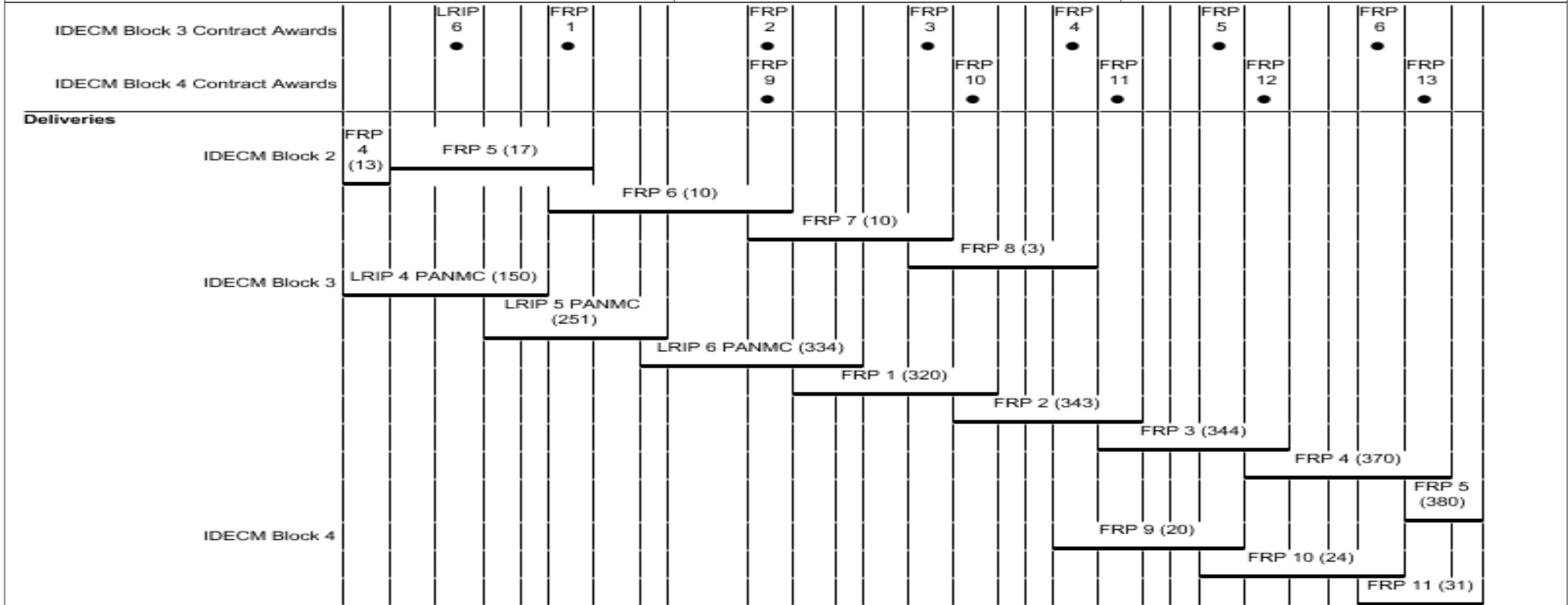


UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604270N: <i>Electronic Warfare (EW) Dev</i> | PROJECT 2175: <i>Tactical Air Electronic Warfare</i> |
|---|---|--|



2012PB - 0604270N - 2175

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604270N: <i>Electronic Warfare (EW) Dev</i> | PROJECT 2175: <i>Tactical Air Electronic Warfare</i> |
|---|---|--|

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| IDECM | | | | |
| Acquisition Milestones: IDECM Block 3 Milestones: IDECM Block 3 Milestone III | 3 | 2011 | 3 | 2011 |
| Acquisition Milestones: IDECM Block 3 Milestones: IDECM Block 3 Initial Operating Capability (IOC) | 3 | 2011 | 3 | 2011 |
| Acquisition Milestones: IDECM Block 4 Milestones: IDECM Block 4 Eng & Mfg Development (EMD) Award | 1 | 2010 | 1 | 2010 |
| Acquisition Milestones: IDECM Block 4 Milestones: IDECM Block 4 IOC | 3 | 2014 | 3 | 2014 |
| Acquisition Milestones: ALQ-214 SW Improvement: ALQ-214 SW Improvement (IOC) | 4 | 2015 | 4 | 2015 |
| Acquisition Milestones: Program Reviews: IDECM Block 4 In-Process Review (IPR) 1 | 2 | 2010 | 2 | 2010 |
| Acquisition Milestones: Program Reviews: IDECM Block 4 In-Process Review (IPR) 2 | 4 | 2010 | 4 | 2010 |
| Acquisition Milestones: Program Reviews: IDECM Block 4 In-Process Review (IPR) 3 | 1 | 2012 | 1 | 2012 |
| Acquisition Milestones: Program Reviews: IDECM Block 4 In-Process Review (IPR) 4 | 2 | 2013 | 2 | 2013 |
| Acquisition Milestones: Program Reviews: IDECM Block 4 In-Process Review (IPR) 5 | 2 | 2014 | 2 | 2014 |
| Systems Development: IDECM Block 4 Development: IDECM Block 4 Development | 1 | 2010 | 3 | 2014 |
| Systems Development: IDECM Block 4 Development: IDECM Block 4 EDM Deliveries (18) | 2 | 2011 | 3 | 2012 |
| Systems Development: System Development Reviews: IDECM Block 4 Critical Design Review (CDR) | 3 | 2010 | 3 | 2010 |
| Systems Development: System Development Reviews: ALQ-214 SW Improvement Development (PDR) | 3 | 2012 | 3 | 2012 |
| Systems Development: System Development Reviews: ALQ-214 SW Improvement Development (CDR) | 1 | 2013 | 1 | 2013 |
| Systems Development: ALQ-214 SW Improvement Development: ALQ-214 SW Improvement (Contract Award) | 1 | 2012 | 1 | 2012 |

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604270N: <i>Electronic Warfare (EW) Dev</i> | PROJECT 2175: <i>Tactical Air Electronic Warfare</i> |

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Systems Development: ALQ-214 SW Improvement Development: ALQ-214 SW Improvement Development | 1 | 2012 | 1 | 2015 |
| Test and Evaluation: IDECM B-3 Verification of Correction of Deficiencies Testing: IDECM Block 3 VCD DT Flight Testing | 1 | 2010 | 1 | 2011 |
| Test and Evaluation: IDECM B-3 Verification of Correction of Deficiencies Testing: IDECM Block 3 VCD OT Flight Test | 2 | 2010 | 2 | 2011 |
| Test and Evaluation: IDECM Block 4 Testing: IDECM Block 4 Development Testing (DT) | 1 | 2011 | 4 | 2013 |
| Test and Evaluation: IDECM Block 4 Testing: IDECM Block 4 Operational Assessment (OA) | 1 | 2012 | 3 | 2012 |
| Test and Evaluation: IDECM Block 4 Testing: IDECM Block 4 Development Testing Flights | 3 | 2012 | 1 | 2013 |
| Test and Evaluation: IDECM Block 4 Testing: IDECM Block 4 Operational Testing Flights | 1 | 2013 | 4 | 2013 |
| Test and Evaluation: ALQ-214 SW Improvement Testing: ALQ-214 SW Improvement Development Testing (DT) Lab/Ground | 1 | 2013 | 4 | 2014 |
| Test and Evaluation: ALQ-214 SW Improvement Testing: ALQ-214 SW Improvement Development Testing(DT)/Operational Testing (OT) Flights | 2 | 2014 | 4 | 2014 |
| Test and Evaluation: ALQ-214 SW Improvement Testing: ALQ-214 SW Improvement Operational Testing (OT) Flights | 1 | 2015 | 3 | 2015 |
| Production Milestones: IDECM Block 2 Contract Awards: IDECM Block 2 Full Rate Production (FRP) 7 | 2 | 2010 | 2 | 2010 |
| Production Milestones: IDECM Block 2 Contract Awards: IDECM Block 2 Full Rate Production (FRP) 8 | 2 | 2011 | 2 | 2011 |
| Production Milestones: IDECM Block 3 Contract Awards: IDECM Block 3 Low Rate Initial Production (LRIP) 6 | 3 | 2010 | 3 | 2010 |
| | 2 | 2011 | 2 | 2011 |

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604270N: <i>Electronic Warfare (EW) Dev</i> | PROJECT 2175: <i>Tactical Air Electronic Warfare</i> |

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Production Milestones: IDECM Block 3 Contract Awards: IDECM Block 3 Full Rate Production (FRP) 1 | | | | |
| Production Milestones: IDECM Block 3 Contract Awards: IDECM Block 3 Full Rate Production (FRP) 2 | 2 | 2012 | 2 | 2012 |
| Production Milestones: IDECM Block 3 Contract Awards: IDECM Block 3 Full Rate Production (FRP) 3 | 2 | 2013 | 2 | 2013 |
| Production Milestones: IDECM Block 3 Contract Awards: IDECM Block 3 Full Rate Production (FRP) 4 | 2 | 2014 | 2 | 2014 |
| Production Milestones: IDECM Block 3 Contract Awards: IDECM Block 3 Full Rate Production (FRP) 5 | 2 | 2015 | 2 | 2015 |
| Production Milestones: IDECM Block 3 Contract Awards: IDECM Block 3 Full Rate Production (FRP) 6 | 2 | 2016 | 2 | 2016 |
| Production Milestones: IDECM Block 4 Contract Awards: IDECM Block 4 Full Rate Production (FRP) 9 | 2 | 2012 | 2 | 2012 |
| Production Milestones: IDECM Block 4 Contract Awards: IDECM Block 4 Full Rate Production (FRP) 10 | 3 | 2013 | 3 | 2013 |
| Production Milestones: IDECM Block 4 Contract Awards: IDECM Block 4 Full Rate Production (FRP) 11 | 3 | 2014 | 3 | 2014 |
| Production Milestones: IDECM Block 4 Contract Awards: IDECM Block 4 Full Rate Production (FRP) 12 | 3 | 2015 | 3 | 2015 |
| Production Milestones: IDECM Block 4 Contract Awards: IDECM Block 4 Full Rate Production (FRP) 13 | 3 | 2016 | 3 | 2016 |
| Deliveries: IDECM Block 2: IDECM Block 2 FRP 4 Deliveries (13) | 1 | 2010 | 1 | 2010 |
| Deliveries: IDECM Block 2: IDECM Block 2 FRP 5 Deliveries (17) | 2 | 2010 | 2 | 2011 |
| Deliveries: IDECM Block 2: IDECM Block 2 FRP 6 Deliveries (10) | 2 | 2011 | 2 | 2012 |
| Deliveries: IDECM Block 2: IDECM Block 2 FRP 7 Deliveries (10) | 2 | 2012 | 2 | 2013 |
| Deliveries: IDECM Block 2: IDECM Block 2 FRP 8 Deliveries (3) | 2 | 2013 | 2 | 2014 |

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604270N: <i>Electronic Warfare (EW) Dev</i> | PROJECT 2175: <i>Tactical Air Electronic Warfare</i> |

| Events by Sub Project | Start | | End | |
|--|----------------|-------------|----------------|-------------|
| | Quarter | Year | Quarter | Year |
| Deliveries: IDECM Block 3: IDECM Block 3 LRIP 4 Deliveries (150) | 1 | 2010 | 1 | 2011 |
| Deliveries: IDECM Block 3: IDECM Block 3 LRIP 5 Deliveries (251) | 4 | 2010 | 4 | 2011 |
| Deliveries: IDECM Block 3: IDECM Block 3 LRIP 6 Deliveries (334) | 4 | 2011 | 4 | 2012 |
| Deliveries: IDECM Block 3: IDECM Block 3 FRP 1 Deliveries (320) | 3 | 2012 | 3 | 2013 |
| Deliveries: IDECM Block 3: IDECM Block 3 FRP 2 Deliveries (343) | 3 | 2013 | 3 | 2014 |
| Deliveries: IDECM Block 3: IDECM Block 3 FRP 3 Deliveries (344) | 3 | 2014 | 3 | 2015 |
| Deliveries: IDECM Block 3: IDECM Block 3 FRP 4 Deliveries (370) | 3 | 2015 | 3 | 2016 |
| Deliveries: IDECM Block 3: IDECM Block 3 FRP 5 Deliveries (380) | 3 | 2016 | 4 | 2016 |
| Deliveries: IDECM Block 4: IDECM Block 4 FRP 9 Deliveries (20) | 2 | 2014 | 2 | 2015 |
| Deliveries: IDECM Block 4: IDECM Block 4 FRP 10 Deliveries (24) | 2 | 2015 | 2 | 2016 |
| Deliveries: IDECM Block 4: IDECM Block 4 FRP 11 Deliveries (31) | 2 | 2016 | 4 | 2016 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604270N: <i>Electronic Warfare (EW) Dev</i> | PROJECT 2260: <i>Specific Emitter ID</i> |
|---|---|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|----------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 2260: <i>Specific Emitter ID</i> | 0.690 | - | - | - | - | - | - | - | - | 0.000 | 0.690 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

This project supports systems development and collection of Specific Emitter Identification (SEI) information from National Technical Means (NTM) to track commercial ships over 200 gross registered tons world-wide. Research and development will cover improvements and enhancements to Electronic Intelligence technology. This will include improved/next generation SEI technology for miniaturization and automation of hardware, national collection systems, signal processing and analysis, and de-interleaving of signals. Propagation in a multi-path signal environment will also be assessed. All work on this project will be undertaken in pursuit of goals stated by the Office of Naval Intelligence and the National Security Agency in support of the Worldwide Ship Tracking Program.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|------------|---------|--------------|-------------|---------------|
| <p>Title: SENSOR FUSION</p> <p align="right">Articles:</p> <p>Description: This effort supports systems development and information fusion of improved SEI technology for automation of hardware, national collection systems, signal processing and analysis, and de-interleaving of signals.</p> <p>FY 2010 Accomplishments: Continue all efforts of FY09.</p> | 0.198 0 | - | - | - | - |
| <p>Title: SYSTEM AUTOMATION</p> <p align="right">Articles:</p> <p>Description: This effort supports development of an autonomous surveillance system capable of providing emitter signal information to a central location.</p> <p>FY 2010 Accomplishments: Continue all efforts of FY09.</p> | 0.245 0 | - | - | - | - |
| <p>Title: TECHNOLOGY REFRESH & COMMUNICATION ENHANCEMENT</p> <p align="right">Articles:</p> <p>Description: This effort improves SEI system performance, real-time communication and tactical use of SEI which will be expanded with next generation SEI technology.</p> | 0.247 0 | - | - | - | - |

UNCLASSIFIED

| | |
|--|----------------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | DATE: February 2011 |
|--|----------------------------|

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604270N: <i>Electronic Warfare (EW) Dev</i> | PROJECT 2260: <i>Specific Emitter ID</i> |
|---|---|--|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|--------------|-------------|---------------|
| <i>FY 2010 Accomplishments:</i> Continue all efforts of FY09. | | | | | |
| Accomplishments/Planned Programs Subtotals | 0.690 | - | - | - | - |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

Project moves to PE 0304270N starting FY 2011.

E. Performance Metrics

1. SEI information on thirty to fifty thousand ships per year are entered into the intelligence database.
2. System reliability increases of 10% each year are anticipated under the current funding level.
3. Two technical and software upgrades are accomplished each year that significantly enhance the SEI system's overall effectiveness.
4. It is estimated that one collection site per year can be fully automated increasing the systems effectiveness.
5. Continue developing and deploying techniques to increase capability for evolving radar types
6. Additional details can be described in a classified environment.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604270N: <i>Electronic Warfare (EW) Dev</i> | PROJECT 3327: <i>MAGTF EW Aviation Development</i> |
|---|---|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 3327: <i>MAGTF EW Aviation Development</i> | - | - | 5.312 | 5.600 | 10.912 | 1.359 | 1.058 | 0.871 | 0.686 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

This project unit supports USMC development of Marine Air Ground Task Force (MAGTF) Electronic Warfare (EW) and the various elements of its distributed system of systems (SoS) that support the Commandant of the Marine Corps' Strategy and Vision 2025 and Joint Vision 2025. The SoS will address MAGTF EW sufficiency gaps in the areas of Electronic Attack, Electronic Warfare Support, and Electronic Protection with a multitude of payloads designed for carriage on a variety of organic air and ground MAGTF assets. Payload development plans follow an adaptable, modular and open architecture philosophy to combat the increasing capability gap and enable future growth at a reduced operational and sustainment cost.

Prior to FY12, Intrepid Tiger II efforts were budgeted under PU 0556.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|--------------|-------------|---------------|
| <p>Title: MAGTF EW Software Reprogrammable Payload</p> <p align="right">Articles:</p> <p>FY 2012 Base Plans: MAGTF EW RDT&E will focus on Software Reprogrammable Payload and Collaborative On-line Reconnaissance Operationally Responsive Attack Link (CORPORAL) transition from its Joint Capabilities Technology Demonstration.</p> | - | - | 5.312 0 | - | 5.312 0 |
| <p>Title: Intrepid Tiger II (ALQ-231)</p> <p align="right">Articles:</p> <p>FY 2012 Base Plans: N/A</p> <p>FY 2012 OCO Plans: This project develops integration between Intrepid Tiger II (ALQ-231) and USMC platforms including F/A-18, AV-8B, and the Unmanned Air System (UAS). Initiation of incremental capability improvements and maintenance of threat effectiveness to Area of Regard defined threat sets employs fleet operator and</p> | - | - | - 0 | 5.600 0 | 5.600 0 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604270N: <i>Electronic Warfare (EW) Dev</i> | PROJECT 3327: <i>MAGTF EW Aviation Development</i> |
|---|---|--|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|---------|---------|--------------|-------------|---------------|
| CORPORAL utility assessment inputs. The project fully establishes initial supportability and maintenance concepts. | | | | | |
| Accomplishments/Planned Programs Subtotals | - | - | 5.312 | 5.600 | 10.912 |

| C. Other Program Funding Summary (\$ in Millions) | | | | | | | | | | | |
|--|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| Line Item | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| • 0587: <i>MAGTF EW for Aviation</i> | 0.000 | 0.000 | 0.489 | 0.000 | 0.489 | 2.083 | 4.382 | 8.882 | 2.982 | 22.136 | 40.954 |

D. Acquisition Strategy
 This project unit is part of USMC led efforts to ensure Marine Corps requirements are included in the budget process for the FYDP and beyond. These efforts include Software Reprogrammable Payload (SRP), Intrepid Tiger II (ALQ-231), and CORPORAL. These programs are the Marine Corps' initial steps to create systems to distribute EW capability across the battle space with the intent of replacing EA-6B similar capabilities by 2019.

E. Performance Metrics
 Successful completion Intrepid Tiger II (ALQ 231) EDM Lot 1 DT/OT.
 Delivery of final EDM test articles prior to FOC.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604270N: <i>Electronic Warfare (EW) Dev</i> | PROJECT 3327: <i>MAGTF EW Aviation Development</i> |
|---|---|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Systems Engineering | WR | NAWC:Various | - | - | | - | | 1.660 | Nov 2011 | 1.660 | 0.000 | 1.660 | |
| Systems Engineering | WR | NSWC:Various | - | - | | - | | 0.200 | Dec 2011 | 0.200 | 0.000 | 0.200 | |
| Systems Engineering | WR | Naval Research Lab:Washington, DC | - | - | | 5.312 | Dec 2011 | - | | 5.312 | 4.100 | 9.412 | |
| Subtotal | | | - | - | | 5.312 | | 1.860 | | 7.172 | 4.100 | 11.272 | |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Eng & Tech Svc (Non-FFRDC) | Various | Various:Various | - | - | | - | | 1.440 | Dec 2011 | 1.440 | 0.000 | 1.440 | 1.440 |
| Subtotal | | | - | - | | - | | 1.440 | | 1.440 | 0.000 | 1.440 | 1.440 |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Testing | WR | NAWCAD:Patuxent River, MD | - | - | | - | | 1.600 | Nov 2011 | 1.600 | 0.000 | 1.600 | |
| Flight Testing | WR | NAWCWD:China Lake, CA | - | - | | - | | 0.700 | Nov 2011 | 0.700 | 0.000 | 0.700 | |
| Subtotal | | | - | - | | - | | 2.300 | | 2.300 | 0.000 | 2.300 | |

| | | | Total Prior Years Cost | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|--|--|-------------------------------|----------------|--|---------------------|--|--------------------|--|----------------------|-------------------------|-------------------|---------------------------------|
| Project Cost Totals | | | - | - | | 5.312 | | 5.600 | | 10.912 | 4.100 | 15.012 | |

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604270N: *Electronic Warfare (EW) Dev*

PROJECT

3327: *MAGTF EW Aviation Development*

| Intrepid Tiger II (ALQ-231) | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|-------------------------------|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Systems Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hardware Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Software Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reviews | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test & Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Technical Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operational Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contract Awards | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604270N - 3327

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604270N: <i>Electronic Warfare (EW) Dev</i> | PROJECT 3327: <i>MAGTF EW Aviation Development</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| <i>Intrepid Tiger II (ALQ-231)</i> | | | | |
| Acquisition Milestones: Milestones: FOC | 3 | 2013 | 3 | 2013 |
| Test & Evaluation: Operational Evaluation: DT/OT (EDM Lot 1) | 4 | 2010 | 1 | 2011 |
| Test & Evaluation: Operational Evaluation: DT/OT (EDM Lot 2) | 3 | 2011 | 4 | 2011 |
| Deliveries: EDM Lot 1 Deliveries (Qty 5) | 3 | 2010 | 4 | 2010 |
| Deliveries: EDM Lot 2 Deliveries (Qty 6) | 2 | 2011 | 3 | 2011 |
| Deliveries: EDM Lot 3 Deliveries (Qty 18) | 2 | 2012 | 2 | 2013 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604270N: <i>Electronic Warfare (EW) Dev</i> | PROJECT 9999: <i>Congressional Adds</i> |
|---|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 9999: <i>Congressional Adds</i> | 7.967 | - | - | - | - | - | - | - | - | 0.000 | 7.967 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Congressional Add.

B. Accomplishments/Planned Programs (\$ in Millions)

| | FY 2010 | FY 2011 |
|---|---------|---------|
| Congressional Add: F/A18 Countermeasures Improvement | 3.983 | - |
| FY 2010 Accomplishments: Additional funding to integrate improved countermeasure equipment and Mission Computer upgrades so that Navy and Marine Corps aircrew have the combat capabilities they need to survive and succeed against modern threats. | | |
| Congressional Add: Small Survivable Jammer | 0.797 | - |
| FY 2010 Accomplishments: These funds were used for investigation of EW and jamming technology that could potentially be incorporated into an Unmanned Aerial System. | | |
| Congressional Add: PT Mugu Electronic Warfare Lab Upgrade | 3.187 | - |
| FY 2010 Accomplishments: Upgraded laboratory equipment and facilities necessary to develop a Naval Air Warfare Center Weapons Division Point Mugu laboratory facility modernization. | | |
| Congressional Adds Subtotals | 7.967 | - |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

Not required for Congressional Adds.

E. Performance Metrics

Not required for Congressional Adds.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | | | | R-1 ITEM NOMENCLATURE | | | | | | | |
|---|----------------|----------------|---------------------|--|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | PE 0604273N: <i>VH-71 Executive Helo Development</i> | | | | | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| Total Program Element | 31.905 | 159.785 | 180.070 | - | 180.070 | 393.044 | 591.191 | 689.691 | 701.478 | Continuing | Continuing |
| 3058: <i>VH-71 Replacement Helo</i> | - | 94.687 | - | - | - | - | - | - | - | 0.000 | 94.687 |
| 3300: <i>Presidential Helicopter VXX</i> | 27.320 | 65.098 | 180.070 | - | 180.070 | 393.044 | 591.191 | 689.691 | 701.478 | Continuing | Continuing |
| 9999: <i>Congressional Adds</i> | 4.585 | - | - | - | - | - | - | - | - | 0.000 | 4.585 |

A. Mission Description and Budget Item Justification

Marine Helicopter Squadron One (HMX-1) is required to provide safe and timely transportation for the President and Vice President of the United States, heads of state and others as directed by the White House Military Office. Currently two Type, Model, Series aircraft are used by HMX-1 for the Presidential support mission - the VH-3D and the VH-60N. The VH-71 program was the replacement helicopter for the VH-3D and VH-60N. In order for the VH-71 to be available to most effectively assume Presidential vertical lift mission by FY10, two Increments were to be developed. Increment 1 was to provide an initial limited capability to fulfill the immediate need Presidential lift requirement. Three (3) test article aircraft, system design and development efforts (SDD), maintenance trainers, and associated logistics were initiated in 2005 for Increment 1. Included in the SDD contract were five (5) Increment 1 pilot production aircraft to support Initial Operational Capability. Increment 2 was to be developed to complete all of the Presidential support requirements. Two test articles were to be procured in FY09 to accommodate air vehicle structural differences between Increment 1 and 2 (main gear box, drive train, engines, tail unit and main rotor blades). The second test vehicle was to be procured instead of pursuing the planned modifications to one of the Increment 1 test vehicles due to the extent of the air vehicle structural differences. Due to increased cost and schedule growth the Secretary of Defense and Under Secretary of Defense (Acquisition, Technology and Logistics)'s USD (AT&L) directed cancellation of the current VH-71 program. The VH-71 contract was cancelled in its entirety for the convenience of the government on 1 June 2009. The VH-71 FY11 funding will be utilized to support the execution of the Secretary of Defense and USD (AT&L) decision to cancel the VH-71 program. The VXX is a follow-on program for the VH-71. An acquisition strategy for the VXX program is being established. Funding includes pre-Milestone (MS) A risk reduction activities, capability based assessments, Concept of Operations development, Analysis of Alternatives, specification development, system concept development and threat analysis in support of the FY10 Material Development Decision. Following a successful MS A decision and entrance into the Technology Development Phase, activities will focus on the proposed material solutions, specifically, reducing technology risk, determining and maturing the appropriate set of technologies and to demonstrate technology on prototypes.

Congressional Add: Technology Capture

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604273N: <i>VH-71 Executive Helo Development</i> |
|---|--|

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 129.404 | 159.785 | 296.539 | - | 296.539 |
| Current President's Budget | 31.905 | 159.785 | 180.070 | - | 180.070 |
| Total Adjustments | -97.499 | - | -116.469 | - | -116.469 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | -97.226 | - | | | |
| • SBIR/STTR Transfer | -0.045 | - | | | |
| • Program Adjustments | - | - | -114.377 | - | -114.377 |
| • Section 219 Reprogramming | -0.203 | - | - | - | - |
| • Rate/Misc Adjustments | - | - | -2.092 | - | -2.092 |
| • Congressional General Reductions Adjustments | -0.025 | - | - | - | - |

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 9999: *Congressional Adds*

Congressional Add: *Technology Capture*

| | FY 2010 | FY 2011 |
|---|---------|---------|
| | 4.585 | - |
| Congressional Add Subtotals for Project: 9999 | 4.585 | - |
| Congressional Add Totals for all Projects | 4.585 | - |

Change Summary Explanation

Technical: Not applicable.

Schedule: Project Unit 3058 - VH-71 SDD Contract Termination Settlement changed from 3rd QTR 2011 to 4th QTR 2011. Project Unit 3300 - Due to continuation of the Analysis of Alternatives, Milestone A changed from 2nd QTR 2011 to 4th QTR 2011, Anticipate Request for Proposal change from 2nd QTR 2011 to 2nd QTR 2012, and Contract Award change from 3rd QTR 2011 to 4th QTR 2012.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604273N: <i>VH-71 Executive Helo Development</i> | PROJECT 3058: <i>VH-71 Replacement Helo</i> |
|---|--|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|-------------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 3058: <i>VH-71 Replacement Helo</i> | - | 94.687 | - | - | - | - | - | - | - | 0.000 | 94.687 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

Note

The VH-71 program was cancelled on 1 June 2009.

A. Mission Description and Budget Item Justification

Marine Helicopter Squadron One (HMX-1) is required to provide safe and timely transportation for the President and Vice President of the United States, heads of state and others as directed by the White House Military Office. Currently two Type, Model, Series aircraft are used by HMX-1 for the Presidential support mission - the VH-3D and the VH-60N. The VH-71 program provides the replacement helicopter for the VH-3D and VH-60N. In order for the VH-71 to be available to most effectively assume Presidential vertical lift mission by FY10, two Increments were to be developed. Increment 1 was to provide an initial limited capability to fulfill the immediate need Presidential lift requirement. Three (3) test article aircraft, system design and development (SDD) efforts, maintenance trainers, and associated logistics were initiated in 2005 for Increment 1. Included in the SDD contract were five (5) Increment 1 pilot production aircraft to support Initial Operational Capability. Due to increased cost and schedule growth the Secretary of Defense and Under Secretary of Defense (Acquisition, Technology and Logistics) USD (AT&L) directed cancellation of the current VH-71 program. The VH-71 contract was cancelled in its entirety for the convenience of the government on 1 June 2009. The Termination Proposal was received in the 3rd QTR of FY10. The reduction of FY10 funding for termination liability requires utilizing the identified FY11 funding for the negotiation and eventual settlement of the termination proposal. This FY11 funding will be utilized to support the execution of the Secretary of Defense and USD (AT&L)'s decision to cancel the VH-71 program.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|---|---------|-------------|---------|
| <p>Title: Program Management and Support</p> <p style="text-align: right;">Articles:</p> <p>FY 2011 Plans: Funding covers the Secretary of Defense and USD (AT&L)'s decision to cancel the current VH-71 program. Efforts include, but are not limited to, government integrated logistics support, program management support, systems engineering support, technical pubs, and travel for VH-71 program in support of the termination.</p> | - | 2.518 0 | - |
| <p>Title: Product Development</p> <p style="text-align: right;">Articles:</p> <p>FY 2011 Plans:</p> | - | 92.169 0 | - |

UNCLASSIFIED

| | |
|--|----------------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | DATE: February 2011 |
|--|----------------------------|

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604273N: <i>VH-71 Executive Helo Development</i> | PROJECT 3058: <i>VH-71 Replacement Helo</i> |
|---|--|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|--|---------|---------|---------|
| Funding covers termination costs of the contract based on the Secretary of Defense and USD (AT&L)'s decision to cancel the current VH-71 program. Lockheed Martin Corp Termination Proposal was received on 3rd Quarter of FY10. | | | |
| Accomplishments/Planned Programs Subtotals | - | 94.687 | - |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

The VH-71 program was designated an Acquisition Category ID program. The program received milestone B/C approval from Office of Under Secretary of Defense (Acquisition, Technology and Logistics) on 27 January 2005 and subsequently awarded an SDD contract to Lockheed Martin on 28 January 2005. The Secretary of Defense and USD (AT&L) directed cancellation of the VH-71 program due to increased cost and schedule growth. The program was cancelled on 1 June 2009.

E. Performance Metrics

The VH-71 program was cancelled on 1 June 2009.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604273N: <i>VH-71 Executive Helo Development</i> | PROJECT 3058: <i>VH-71 Replacement Helo</i> |
|---|--|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Primary Hardware Development | C/CPAF | Lockheed Martin Corp:Owego, NY | 2,688.686 | 92.169 | Jun 2011 | - | | - | | - | 0.000 | 2,780.855 | 2,780.855 |
| Systems Engineering | WR | NAWCAD:Patuxent River, MD | 13.582 | - | | - | | - | | - | 0.000 | 13.582 | |
| Training Development | C/CPAF | Lockheed Martin Corp:Owego, NY | 4.989 | - | | - | | - | | - | 0.000 | 4.989 | 4.989 |
| Training Development | WR | NAWCAD:Patuxent River, MD | 20.861 | - | | - | | - | | - | 0.000 | 20.861 | |
| Training Development | Various | Various:Various | 2.600 | 0.079 | Nov 2010 | - | | - | | - | 0.000 | 2.679 | |
| Subtotal | | | 2,730.718 | 92.248 | | - | | - | | - | 0.000 | 2,822.966 | |

Remarks

Covers the Secretary of Defense and Under Secretary of Defense (Acquisition, Technology and Logistics) USD (AT&L)'s decision to cancel the current VH-71 program.

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Development Support Equipment | Various | Various:Various | 13.572 | 0.021 | Nov 2010 | - | | - | | - | 0.000 | 13.593 | |
| Integrated Logistics Support | WR | NADEP:Cherry Point, NC | 6.313 | 0.328 | Nov 2010 | - | | - | | - | 0.000 | 6.641 | |
| Integrated Logistics Support | WR | NAWCAD:Lakehurst, NJ | 13.422 | 0.322 | Nov 2010 | - | | - | | - | 0.000 | 13.744 | |
| Integrated Logistics Support | WR | NAWCAD:Patuxent River,MD | 19.783 | - | | - | | - | | - | 0.000 | 19.783 | |
| Integrated Logistics Support | Various | Various:Various | 0.955 | 0.098 | Nov 2010 | - | | - | | - | 0.000 | 1.053 | |
| Studies and Analyses | Various | Various:Various | 3.772 | - | | - | | - | | - | 0.000 | 3.772 | |
| Studies and Analyses | C/FFP | Lockheed Martin Corp:Owego, NY | 86.710 | - | | - | | - | | - | 0.000 | 86.710 | 86.710 |
| Studies and Analyses | C/FFP | Sikorsky Aircraft:Stratford, CT | 87.350 | - | | - | | - | | - | 0.000 | 87.350 | 87.350 |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604273N: <i>VH-71 Executive Helo Development</i> | PROJECT 3058: <i>VH-71 Replacement Helo</i> |
|---|--|---|

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Studies and Analyses | WR | NAWCAD:Patuxent River, MD | 0.061 | - | | - | | - | | - | 0.000 | 0.061 | |
| Subtotal | | | 231.938 | 0.769 | | - | | - | | - | 0.000 | 232.707 | |

Remarks
Covers the Secretary of Defense and USD (AT&L)'s decision to cancel the current VH-71 program.

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Development Test & Evaluation | WR | NAWCAD:Patuxent River, MD | 30.748 | - | | - | | - | | - | 0.000 | 30.748 | |
| Development Test & Evaluation | Various | Various:Various | 10.937 | - | | - | | - | | - | 0.000 | 10.937 | |
| Live Fire Test & Evaluation | WR | NAWCWD:China Lake, CA | 13.130 | - | | - | | - | | - | 0.000 | 13.130 | |
| Subtotal | | | 54.815 | - | | - | | - | | - | 0.000 | 54.815 | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Contractor Engineering Support | Various | Various:Various | 9.292 | 0.590 | Nov 2010 | - | | - | | - | 0.000 | 9.882 | |
| Government Engineering Support | WR | NAWCAD:Patuxent River, MD | 73.579 | - | | - | | - | | - | 0.000 | 73.579 | |
| Government Engineering Support | Various | Various:Various | 4.192 | - | | - | | - | | - | 0.000 | 4.192 | |
| Program Management Support | WR | NAWCAD:Patuxent River, MD | 53.289 | 0.662 | Nov 2010 | - | | - | | - | 0.000 | 53.951 | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604273N: <i>VH-71 Executive Helo Development</i> | PROJECT 3058: <i>VH-71 Replacement Helo</i> |
|---|--|---|

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Program Management Support | Various | Various:Various | 28.185 | 0.418 | Nov 2010 | - | | - | | - | 0.000 | 28.603 | |
| Transportation | Various | Various:Various | 2.237 | - | | - | | - | | - | 0.000 | 2.237 | |
| Travel | Various | NAVAIR:Patuxent River, MD | 1.292 | - | | - | | - | | - | 0.000 | 1.292 | |
| Subtotal | | | 172.066 | 1.670 | | - | | - | | - | 0.000 | 173.736 | |

Remarks
Covers the Secretary of Defense and USD (AT&L)'s decision to cancel the current VH-71 program.

| | Total Prior Years Cost | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|-------------------------------|----------------|---------------------|--------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Project Cost Totals | 3,189.537 | 94.687 | - | - | - | 0.000 | 3,284.224 | |

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: Research, Development, Test & Evaluation, Navy
BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

PE 0604273N: VH-71 Executive Helo
Development

PROJECT

3058: VH-71 Replacement Helo

| VH-71 Replacement Helo | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|-------------------------------|---------------------|----|------------------------------|----|---------|----|----|--------------------------------|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Termination Efforts | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Systems Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test & Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contract Awards | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| VH-71 SDD Contract | | | Termination Proposal ▼ | | | | | Termination Settlement ● | | | | | | | | | | | | | | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604273N - 3058

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604273N: <i>VH-71 Executive Helo Development</i> | PROJECT 3058: <i>VH-71 Replacement Helo</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| <i>VH-71 Replacement Helo</i> | | | | |
| Acquisition Milestones: Termination Efforts | 1 | 2010 | 3 | 2011 |
| Production Milestones: VH-71 SDD Contract: Termination Proposal Due | 3 | 2010 | 3 | 2010 |
| Production Milestones: VH-71 SDD Contract: Termination Settlement | 4 | 2011 | 4 | 2011 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604273N: <i>VH-71 Executive Helo Development</i> | PROJECT 3300: <i>Presidential Helicopter VXX</i> |
|---|--|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 3300: <i>Presidential Helicopter VXX</i> | 27.320 | 65.098 | 180.070 | - | 180.070 | 393.044 | 591.191 | 689.691 | 701.478 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

Note

The VXX was a new start in FY 2010.

A. Mission Description and Budget Item Justification

Marine Helicopter Squadron One (HMX-1) is required to provide safe and timely transportation for the President and Vice President of the United States, heads of state and others as directed by the White House Military Office. Currently two Type, Model, Series aircraft are used by HMX-1 for the Presidential support mission - the VH-3D and the VH-60N. The VXX Executive Helicopter Replacement Program will replace the VH-3D and VH-60N. An acquisition strategy for the VXX program is being established. Funding includes pre-Milestone (MS) A risk reduction activities, capability based assessments, Concept of Operations (CONOPS) development, Analysis of Alternatives (AoA) guidance development, specification development, system concept development and threat analysis in support of the FY10 Material Development Decision. Following a successful MS A decision and entrance into the Technology Development Phase, activities will focus on the proposed material solutions, specifically, reducing technology risk, determining and maturing the appropriate set of technologies, and to demonstrate technology on prototypes.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| Title: Program Management and Support | 23.076 | 30.050 | 45.581 |
| Articles: | 0 | 0 | 0 |
| FY 2010 Accomplishments: Conducted MS A risk reduction tasks to include: VXX requirements analysis, CONOPS development, AoA guidance development, and system concept development. | | | |
| FY 2011 Plans: Complete MS A activities. Upon completion of the AoA, and entrance into the Technology Development Phase funded activities of the proposed material solutions will include: reducing technology risk, determining and maturing the appropriate set of technologies, and to demonstrate technology on prototypes. | | | |
| FY 2012 Plans: Continue the Technology Development Phase funded activities of the proposed material solutions will include: reducing technology risk, determining and maturing the appropriate set of technologies, and to demonstrate technology on prototypes. | | | |
| Title: Test and Evaluation | 2.526 | 4.800 | 2.241 |
| Articles: | 0 | 0 | 0 |
| FY 2010 Accomplishments: | | | |

UNCLASSIFIED

| | | | | |
|---|--|--|----------------|----------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604273N: <i>VH-71 Executive Helo Development</i> | PROJECT 3300: <i>Presidential Helicopter VXX</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| Supported VXX initial test and evaluation planning and documentation. FY 2011 Plans: Support VXX initial test and evaluation planning and documentation. FY 2012 Plans: Support VXX initial test and evaluation planning and documentation. | | | | |
| Title: Product Development | | | | |
| FY 2010 Accomplishments: Provided Government and Contractor VXX systems engineering support to accomplish technical activities to include trade studies and risk reduction activities. Provided Government VXX program management support. | | | | |
| FY 2011 Plans: Provides Government and Contractor VXX systems engineering support to accomplish technical activities to include trade studies, risk reduction, and early Technology Development phase activities. Provides Government VXX program management support. | | | | |
| FY 2012 Plans: Provides Government and Contractor VXX systems engineering support to accomplish technical activities to include trade studies, risk reduction, and early Technology Development phase activities. Provides Government VXX program management support. | | | | |
| Articles: | | 1.718 0 | 30.248 0 | 132.248 0 |
| Accomplishments/Planned Programs Subtotals | | 27.320 | 65.098 | 180.070 |
| C. Other Program Funding Summary (\$ in Millions) | | | | |
| N/A | | | | |
| D. Acquisition Strategy | | | | |
| An acquisition plan for the VXX program is being established. Funding includes pre-MS A risk reduction activities, capability based assessments, CONOPS development, trade study analysis, specification development, system concept development and threat analysis. | | | | |
| E. Performance Metrics | | | | |
| Pre-Major Decision Acquisition Program, performance metrics will be provided upon program Acquisition Category designation/post MS A. | | | | |

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604273N: <i>VH-71 Executive Helo Development</i> | PROJECT 3300: <i>Presidential Helicopter VXX</i> |
|---|--|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Primary HW Dev | TBD | TBD:TBD | - | 29.774 | Jun 2011 | 124.317 | Sep 2012 | - | | 124.317 | Continuing | Continuing | Continuing |
| Systems Engineering | WR | NAWCAD:Patuxent River, MD | 1.445 | - | | 6.784 | Nov 2011 | - | | 6.784 | Continuing | Continuing | Continuing |
| Training Support | WR | NAWCAD:Patuxent River, MD | 0.116 | - | | 0.533 | Nov 2011 | - | | 0.533 | Continuing | Continuing | Continuing |
| Training Support | WR | NAWCTSD:Orlando, FL | 0.157 | 0.474 | Nov 2010 | 0.614 | Nov 2011 | - | | 0.614 | Continuing | Continuing | Continuing |
| Subtotal | | | 1.718 | 30.248 | | 132.248 | | - | | 132.248 | | | |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Integrated Logistics Support | WR | NAWCAD:Patuxent River, MD | 2.319 | 3.900 | Nov 2010 | 6.130 | Nov 2011 | - | | 6.130 | Continuing | Continuing | Continuing |
| Integrated Logistics Support | WR | FRC:Cherry Point, NC | 0.301 | - | | 0.490 | Nov 2011 | - | | 0.490 | Continuing | Continuing | Continuing |
| Integrated Logistics Support | WR | NAWCAD:Lakehurst, NJ | 0.139 | - | | 0.482 | Nov 2011 | - | | 0.482 | Continuing | Continuing | Continuing |
| Integrated Logistics Support | Various | Various:Various | - | 2.400 | Jan 2011 | - | | - | | - | Continuing | Continuing | Continuing |
| Studies and Analysis | WR | NAWCAD:Patuxent River, MD | 4.207 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Studies and Analysis | FFRDC | Various:Various | 0.970 | 0.750 | Nov 2010 | - | | - | | - | 0.000 | 1.720 | 1.720 |
| Subtotal | | | 7.936 | 7.050 | | 7.102 | | - | | 7.102 | | | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Development Test & Evaluation | WR | NAWCAD:Patuxent River, MD | 2.526 | 4.800 | Nov 2010 | 2.241 | Nov 2011 | - | | 2.241 | Continuing | Continuing | Continuing |
| Subtotal | | | 2.526 | 4.800 | | 2.241 | | - | | 2.241 | | | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604273N: <i>VH-71 Executive Helo Development</i> | PROJECT 3300: <i>Presidential Helicopter VXX</i> |
|---|--|--|

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | Target Value of Contract |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Contractor Engineering Support | Various | Various:Various | - | 0.975 | Nov 2010 | 2.350 | Nov 2011 | - | | 2.350 | Continuing | Continuing | Continuing |
| Government Engineering Support | WR | NAWCAD:Patuxent River, MD | 4.822 | 9.500 | Nov 2010 | 15.725 | Nov 2011 | - | | 15.725 | Continuing | Continuing | Continuing |
| Government Engineering Support | WR | NAWCWD:China Lake, CA | - | - | | 0.205 | Nov 2011 | - | | 0.205 | Continuing | Continuing | Continuing |
| Program Management Support | WR | NAWCAD:Patuxent River, MD | 10.296 | 12.200 | Nov 2010 | 19.949 | Nov 2011 | - | | 19.949 | Continuing | Continuing | Continuing |
| Transportation | Various | NAVAIR:Patuxent River, MD | - | - | | 0.050 | Oct 2011 | - | | 0.050 | Continuing | Continuing | Continuing |
| Travel | Various | NAVAIR:Patuxent River, MD | 0.022 | 0.325 | Oct 2010 | 0.200 | Oct 2011 | - | | 0.200 | Continuing | Continuing | Continuing |
| Subtotal | | | 15.140 | 23.000 | | 38.479 | | - | | 38.479 | | | |
| Project Cost Totals | | | 27.320 | 65.098 | | 180.070 | | - | | 180.070 | | | |

Remarks
An Analysis of Alternatives (AoA) for VXX is currently underway. The Cost to Complete will remain "To Be Determined" pending the outcome of the AoA and the development of a preliminary acquisition strategy for the proposed material solution(s).

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604273N: <i>VH-71 Executive Helo Development</i> | PROJECT 3300: <i>Presidential Helicopter VXX</i> |
|---|--|--|

| Presidential Helicopter VXX | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|-------------------------------|---------------------------------|----------|----|----|---------|----|---------|----|---------|----|----|----|------------------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q |
| Acquisition Milestones | | MDD ◆ | | | | | MS ▲ | | | | | | | | | | | | | | | | | | | | | |
| Systems Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hardware Development | Technology Development Strategy | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Software Development | Technology Development RFP | | | | | | | | | | | | TD Award ● | | | | | | | | | | | | | | | |
| Reviews | Capabilities Based Assessment | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Analysis of Alternatives | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test & Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contract Awards | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604273N - 3300

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604273N: <i>VH-71 Executive Helo Development</i> | PROJECT 3300: <i>Presidential Helicopter VXX</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| <i>Presidential Helicopter VXX</i> | | | | |
| Acquisition Milestones: Material Development Decision | 2 | 2010 | 2 | 2010 |
| Acquisition Milestones: Milestone A | 4 | 2011 | 4 | 2011 |
| Systems Development: Hardware Development: Technology Development Strategy | 1 | 2010 | 2 | 2011 |
| Systems Development: Hardware Development: Technology Development RFP | 2 | 2010 | 2 | 2012 |
| Systems Development: Hardware Development: TD Award | 4 | 2012 | 4 | 2012 |
| Systems Development: Reviews: Capabilities Based Assessment | 1 | 2010 | 2 | 2010 |
| Systems Development: Reviews: Analysis of Alternatives | 2 | 2010 | 2 | 2011 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604273N: <i>VH-71 Executive Helo Development</i> | PROJECT 9999: <i>Congressional Adds</i> |
|---|--|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 9999: <i>Congressional Adds</i> | 4.585 | - | - | - | - | - | - | - | - | 0.000 | 4.585 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Congressional Add

B. Accomplishments/Planned Programs (\$ in Millions)

| | FY 2010 | FY 2011 |
|---|---------|---------|
| Congressional Add: Technology Capture | 4.585 | - |
| FY 2010 Accomplishments: Efforts in support of Technology Capture. | | |
| Congressional Adds Subtotals | 4.585 | - |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

Not required for Congressional Adds

E. Performance Metrics

Not required for Congressional Adds

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | | | R-1 ITEM NOMENCLATURE | | | | | | | | |
|---|----------------|----------------|--|--------------------|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | PE 0604274N: <i>Next Generation Jammer (NGJ)</i> | | | | | | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| Total Program Element | 111.777 | 120.602 | 189.919 | - | 189.919 | 337.712 | 344.138 | 347.237 | 351.580 | Continuing | Continuing |
| 0557: <i>Next Generation Jammer</i> | 111.777 | 120.602 | 189.919 | - | 189.919 | 337.712 | 344.138 | 347.237 | 351.580 | Continuing | Continuing |

A. Mission Description and Budget Item Justification

This project develops a Next Generation Jammer (NGJ) capability and appropriate technologies required to replace the existing ALQ-99 Tactical Jamming System. NGJ is required to keep pace with advances in threat weapons systems and continuous expansion of the Airborne Electronic Attack (AEA) mission area. NGJ capabilities will address AEA capability gaps, AEA sufficiency gaps, and address ALQ-99 shortfalls in scalability, flexibility, supportability, interoperability, availability, and capability. NGJ will utilize an adaptable, modular, and open architecture philosophy to combat the increasing capability gap and enable future growth at a reduced operational and sustainment cost.

Note: NGJ was previously funded under PE 0604270N/PU 0556 EW Development. NGJ effort budgeted for \$36.006M under PE 0604270N/PU 0556 in FY 2009.

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 117.481 | 120.602 | 119.891 | - | 119.891 |
| Current President's Budget | 111.777 | 120.602 | 189.919 | - | 189.919 |
| Total Adjustments | -5.704 | - | 70.028 | - | 70.028 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | -2.000 | - | | | |
| • SBIR/STTR Transfer | -3.688 | - | | | |
| • Program Adjustments | - | - | 71.072 | - | 71.072 |
| • Section 219 Reprogramming | -0.013 | - | - | - | - |
| • Rate/Misc Adjustments | - | - | -1.044 | - | -1.044 |
| • Congressional General Reductions Adjustments | -0.003 | - | - | - | - |

Change Summary Explanation

Technical: Not applicable.

UNCLASSIFIED

| | |
|---|----------------------------|
| Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy | DATE: February 2011 |
|---|----------------------------|

| | |
|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604274N: <i>Next Generation Jammer (NGJ)</i> |
|---|--|

Schedule: Analysis of Alternatives (AoA), In-Process Review Defense Acquisition Board (IPR DAB), and Resources Requirements Review Board (R3B) added to schedule to provide further program detail. Milestone A moved from 4th QTR 2011 to 2nd QTR 2012. Technology Development (TD) Award moved from 1st QTR 2012 to 3rd QTR 2012 due to late award of Technology Maturation (TM) contracts in 4th QTR 2010 vice 3rd QTR 2010. Prototype Demonstration moved from 4th QTR 2012 to 3rd QTR 2014. NGJ TEMP moved from 1st QTR 2013 to 1st QTR 2014. Milestone B moved from 4th QTR 2013 to 1st QTR 2015. Engineering and Manufacturing Development (EMD) contract award moved from 1st QTR 2014 to 1st QTR 2015 because of improved program knowledge and Independent Expert Program Review recommendations. Integrated testing moved from 1st QTR 2014 to 1st QTR 2016 to permit development of test articles under EMD contract. Engineering Development Model (EDM) deliveries moved from 4th QTR 2015 to 4th QTR 2016 to support testing.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604274N: <i>Next Generation Jammer (NGJ)</i> | PROJECT 0557: <i>Next Generation Jammer</i> |
|---|--|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|-------------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 0557: <i>Next Generation Jammer</i> | 111.777 | 120.602 | 189.919 | - | 189.919 | 337.712 | 344.138 | 347.237 | 351.580 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

This project develops a Next Generation Jammer (NGJ) capability and appropriate technologies required to replace the existing ALQ-99 Tactical Jamming System. NGJ is required to keep pace with advances in threat weapons systems and continuous expansion of the Airborne Electronic Attack (AEA) mission area. NGJ capabilities will address AEA capability gaps, AEA sufficiency gaps and address ALQ-99 shortfalls in scalability, flexibility, supportability, interoperability, availability and capability. NGJ will utilize an adaptable, modular, and open architecture philosophy to combat the increasing capability gap and enable future growth at a reduced operational sustainment cost.

Note: NGJ was previously funded under PE 0604270N/PU 0556 EW Development. NGJ effort budgeted \$36.006M under PE 0604270N/PU 0556 in FY 2009.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|---|-------------------------|-------------------------|-------------------------|
| <p>Title: Next Generation Jammer</p> <p align="right">Articles:</p> <p>FY 2010 Accomplishments: Completed Material Solution Analysis phase activities and conducted NGJ technology maturation analysis/studies needed to support a Milestone A decision.</p> <p>FY 2011 Plans: Continue technology maturation analysis/studies and initiate NGJ technology development activities to reduce technological risk and determine appropriate set of technologies for use in NGJ.</p> <p>FY 2012 Plans: Complete technology maturation efforts and Milestone A decision. Continue technology development activities in support of prototype demonstration and Milestone B decision.</p> | <p>107.128</p> <p>0</p> | <p>118.602</p> <p>0</p> | <p>189.919</p> <p>0</p> |
| <p>Title: Analysis of Alternatives</p> <p align="right">Articles:</p> <p>FY 2010 Accomplishments: Completed collection and analysis of NGJ alternatives data for EA-18G and F-35. Final report completed and delivered.</p> | <p>2.849</p> <p>0</p> | <p>-</p> | <p>-</p> |
| <p>Title: Capability Development Document (CDD)</p> <p align="right">Articles:</p> | <p>1.800</p> <p>0</p> | <p>2.000</p> <p>0</p> | <p>-</p> |

UNCLASSIFIED

| | |
|--|----------------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | DATE: February 2011 |
|--|----------------------------|

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604274N: <i>Next Generation Jammer (NGJ)</i> | PROJECT 0557: <i>Next Generation Jammer</i> |
|---|--|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|--|---------|---------|---------|
| <i>FY 2010 Accomplishments:</i> Analysis and refinement of NGJ technical and programmatic requirements and initiation of draft CDD. | | | |
| <i>FY 2011 Plans:</i> Finalization of CDD and initial routing through Joint Capabilities Integration Development System process for Milestone A. | | | |
| Accomplishments/Planned Programs Subtotals | 111.777 | 120.602 | 189.919 |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

Next Generation Jammer is designated a Pre-Major Defense Acquisition Program and activity will focus on technology maturation to include technology development strategies in preparation for Milestone A in FY12.

E. Performance Metrics

To obtain sufficient technology maturation and demonstration to obtain favorable Milestone A and Milestone B decisions for continued program development.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604274N: <i>Next Generation Jammer (NGJ)</i> | PROJECT 0557: <i>Next Generation Jammer</i> |
|---|--|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|--|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Primary Hardware Development | TBD | Various:Various | - | - | | 165.614 | Apr 2012 | - | | 165.614 | 1,295.094 | 1,460.708 | 1,460.708 |
| Primary Hardware Development | C/CPFF | ITT:Clifton, NJ | 22.234 | 25.920 | Apr 2011 | - | | - | | - | 0.000 | 48.154 | 48.154 |
| Primary Hardware Development | C/CPFF | BAE:Nashua, NH | 21.841 | 25.919 | Apr 2011 | - | | - | | - | 0.000 | 47.760 | 47.760 |
| Primary Hardware Development | C/CPFF | Raytheon:Goleta, CA | 21.966 | 25.919 | Apr 2011 | - | | - | | - | 0.000 | 47.885 | 47.885 |
| Primary Hardware Development | C/CPFF | Northrop Grumman:Baltimore, MD | 21.960 | 25.919 | Apr 2011 | - | | - | | - | 0.000 | 47.879 | 47.879 |
| Primary Hardware Development | SS/CPFF | Sparta, Inc.:Lake Forest, CA | 1.245 | - | | - | | - | | - | 0.000 | 1.245 | 1.245 |
| Primary Hardware Development | SS/CPFF | Northrop Grumman Space & Mission Systems Corp.:Herndon, VA | 1.765 | - | | - | | - | | - | 0.000 | 1.765 | 1.765 |
| Studies & Analysis (Non-FFRDC) | SS/CPFF | Mantech Systems Engineering Corp.:Fairfax, VA | 1.571 | - | | - | | - | | - | 0.000 | 1.571 | 1.571 |
| Studies & Analysis (Non-FFRDC) | Various | Various:Various | - | 1.587 | Dec 2010 | 1.612 | Dec 2011 | - | | 1.612 | 0.000 | 3.199 | 3.199 |
| Systems Engineering | WR | NAWCAD:Patuxent River, MD | 4.450 | 4.600 | Nov 2010 | 7.209 | Nov 2011 | - | | 7.209 | 27.254 | 43.513 | |
| Systems Engineering | WR | NAWCWD:Pt. Mugu, CA | 2.008 | 1.523 | Nov 2010 | 1.545 | Nov 2011 | - | | 1.545 | 6.200 | 11.276 | |
| Systems Engineering | WR | NSWC Crane:Crane, IN | 1.500 | 1.523 | Dec 2010 | 1.600 | Dec 2011 | - | | 1.600 | 6.200 | 10.823 | |
| Systems Engineering | SS/CPFF | Johns Hopkins University Applied Physics Lab:Laurel, MD | 1.200 | 1.500 | Jan 2011 | 1.522 | Dec 2011 | - | | 1.522 | 6.400 | 10.622 | 10.622 |
| Systems Engineering | Various | Various:Various | 6.335 | 2.454 | Dec 2010 | 7.173 | Dec 2011 | - | | 7.173 | 29.500 | 45.462 | |
| Subtotal | | | 108.075 | 116.864 | | 186.275 | | - | | 186.275 | 1,370.648 | 1,781.862 | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604274N: <i>Next Generation Jammer (NGJ)</i> | PROJECT 0557: <i>Next Generation Jammer</i> |
|---|--|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |

Remarks
FY11 Costs adjusted to reflect award of four FY10/11 incrementally funded TM contracts.

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Eng& Tech Srvc (Non FFRDC) | SS/FFP | NSMA:Arlington, VA | 1.403 | 1.418 | Dec 2010 | 1.434 | Dec 2011 | - | | 1.434 | 4.115 | 8.370 | 8.370 |
| Eng& Tech Srvc (Non FFRDC) | Various | Various:Various | 2.199 | 2.220 | Dec 2010 | 2.010 | Dec 2011 | - | | 2.010 | 5.064 | 11.493 | 11.493 |
| Subtotal | | | 3.602 | 3.638 | | 3.444 | | - | | 3.444 | 9.179 | 19.863 | 19.863 |

Remarks
FY11 Costs adjusted to further breakout anticipated contracting actions and cost categories.

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Program Management Support | WR | Various:Various | 0.100 | 0.100 | Dec 2010 | 0.200 | Dec 2011 | - | | 0.200 | 0.840 | 1.240 | |
| Subtotal | | | 0.100 | 0.100 | | 0.200 | | - | | 0.200 | 0.840 | 1.240 | |

| | Total Prior Years Cost | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|------------------------|---------|--------------|-------------|---------------|------------------|------------|--------------------------|
| Project Cost Totals | | 111.777 | 120.602 | 189.919 | - | 189.919 | 1,380.667 | 1,802.965 |

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604274N: *Next Generation Jammer (NGJ)*

PROJECT

0557: *Next Generation Jammer*

| Next Generation Jammer | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | | |
|-------------------------------|---------|----|----------|---------------|---------|----------|----|----|---------|-----------|---------------|----|---------|----|----|----|---------|----|----|----|---------|-----------|----------------|----|---------|----|----|----|--|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Milestones | | | ▲ AoA | ▲ IPR/DAB | | | | | | ▲ MS A | | | | | | | | | | | | ▲ MS B | | | | | | | |
| Systems Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hardware Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reviews | | | | | | ■ R3B | | | | | | | | | | | | | | | | | | | | | | | |
| Software Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test & Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Technical Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operational Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contract Awards | | | | ● TM Award | | | | | | | ● TD Award | | | | | | | | | | | | ● EMD Award | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604274N - 0557

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604274N: <i>Next Generation Jammer (NGJ)</i> | PROJECT 0557: <i>Next Generation Jammer</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| <i>Next Generation Jammer</i> | | | | |
| Acquisition Milestones: Milestones: Analysis of Alternatives (AoA) Report | 3 | 2010 | 3 | 2010 |
| Acquisition Milestones: Milestones: IPR/DAB | 4 | 2010 | 4 | 2010 |
| Acquisition Milestones: Milestones: Milestone A | 2 | 2012 | 2 | 2012 |
| Acquisition Milestones: Milestones: Milestone B | 1 | 2015 | 1 | 2015 |
| Systems Development: Hardware Development: Prototype Demonstration | 1 | 2014 | 3 | 2014 |
| Systems Development: Hardware Development: Engineering Development Model (EDM) Deliveries | 4 | 2016 | 4 | 2016 |
| Systems Development: Reviews: Resource Requirements Review Board (R3B) | 1 | 2011 | 1 | 2011 |
| Test & Evaluation: Technical Evaluation: NGJ Test & Evaluation Master Plan (TEMP) | 1 | 2014 | 1 | 2014 |
| Test & Evaluation: Technical Evaluation: Integrated Testing | 1 | 2016 | 4 | 2016 |
| Production Milestones: Contract Awards: Technology Maturation (TM) Contract Award | 4 | 2010 | 4 | 2010 |
| Production Milestones: Contract Awards: Technology Development (TD) Contract Award | 3 | 2012 | 3 | 2012 |
| Production Milestones: Contract Awards: Engineering & Manufacturing Development (EMD) Contract Award | 1 | 2015 | 1 | 2015 |

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | R-1 ITEM NOMENCLATURE PE 0604280N: <i>JT Tact Radio Sys (JTRS)</i> | | | | | | | |
|---|----------------|----------------|---------------------|--|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| Total Program Element | 858.831 | 687.723 | 688.146 | - | 688.146 | 127.782 | 48.600 | 23.018 | 16.544 | Continuing | Continuing |
| 3020: <i>MIDS/JTRS</i> | 14.821 | 20.722 | 41.688 | - | 41.688 | 11.105 | 3.003 | 0.732 | 0.625 | Continuing | Continuing |
| 3073: <i>AMF JTRS</i> | 306.018 | 407.334 | 349.920 | - | 349.920 | 65.385 | 21.324 | 3.381 | 0.163 | Continuing | Continuing |
| 3074: <i>GMR JTRS</i> | 200.332 | 101.404 | 18.732 | - | 18.732 | 2.278 | 0.847 | 0.028 | 0.026 | Continuing | Continuing |
| 3075: <i>HMS JTRS</i> | 135.936 | 40.689 | 179.117 | - | 179.117 | 12.452 | 2.788 | 0.326 | - | 0.000 | 371.308 |
| 3076: <i>JTRS Network Enterprise Domain (JNED)</i> | 198.139 | 117.574 | 94.189 | - | 94.189 | 32.235 | 20.638 | 18.551 | 15.730 | Continuing | Continuing |
| 3078: <i>Digital Modular Radio</i> | - | - | 4.500 | - | 4.500 | 4.327 | - | - | - | 0.000 | 8.827 |
| 9999: <i>Congressional Adds</i> | 3.585 | - | - | - | - | - | - | - | - | 0.000 | 3.585 |

Note

In FY10-FY12, Program Element (PE) 0604280N represents the total JTRS RDT&E Budget (includes Multifunctional Information Distribution System (MIDS), Airborne and Maritime/Fixed Station (AMF) JTRS, Ground Mobile Radio (GMR) JTRS, Handheld/Manpack/Small Form Fit (HMS) JTRS, and JTRS Network Enterprise Domain (JNED)).

In FY13-FY16, Program Element (PE) 0604280N represents the Navy share of the funding associated with all JTRS Development Projects. JTRS Common Development includes funding for: MIDS, AMF JTRS, GMR JTRS, HMS JTRS, and JNED. As part of the JTRS joint program budget strategy, each Military Department (MILDEP) budgets for a portion of the total program. Thus in FY13-16 a portion of JTRS development is represented in this PE, in Army PE 0604280A, and in Air Force PE 0604280F.

A. Mission Description and Budget Item Justification

JTRS is the Department of Defense (DoD) family of common software-defined programmable radios that will form the foundation of information radio frequency transmission for Joint Vision 2020. The JTRS family of products will be multifunctional, multiband, multimode, network capable, and capable of providing communications through a range of low probability of intercept, low probability of detection and anti-jam waveforms. JTRS products will provide transformational communication capabilities for the warfighter. JTRS is intended to support communications readiness and mission success, in the 2 Megahertz (MHz) to 2 Gigahertz (GHz) operating frequency range, by providing military commanders with the ability to command, control and communicate with their forces via secure voice/video/data media forms. JTRS products are hardware-configurable and software-programmable radio systems that provide increased interoperability, flexibility and adaptability to support varied mission requirements.

(AMF) AMF JTRS is a key enabler to the transformation of airborne, maritime, and land based communications toward network-centric operations. AMF JTRS will operate with legacy radios and waveforms used by civilian and military airborne, surface, subsurface, and fixed station platforms. AMF JTRS is intended to provide

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy DATE: February 2011

| | |
|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604280N: <i>JT Tact Radio Sys (JTRS)</i> |
|---|--|

new radio networking capability as well as replace existing radio systems, which are facing long-term sustainment issues. AMF JTRS capabilities will be incrementally developed, with each increment building on the technological achievements of its predecessor, while providing expanded capabilities.

(MIDS) MIDS- Low Volume Terminal (LVT) is a jam-resistant, secure, digital (voice and data) information distribution system enabling rapid integrated communications, navigation and identification for tactical and command and control operations. The technical objective of the MIDS JTRS program is to transform the MIDS-LVT into a four-channel, Software Communications Architecture (SCA) compliant JTRS, while maintaining current Link-16 and tactical air navigation system (TACAN) functionality. MIDS JTRS is designed to be plug-and-play interchangeable for U.S. Navy and U.S. Air Force platforms that use MIDS-LVT, while accommodating future technologies and capabilities. Improvements such as Link-16 enhanced throughput, Link-16 frequency remapping, and programmable crypto are realized in the MIDS JTRS design. The MIDS JTRS core terminal includes three 2 MHz to 2 GHz programmable channels that allow the warfighter to use multiple waveforms in development by JNED. Total core terminal program requirements include: terminal development, F/A-18 Level 0 integration, software hosting (operating environment/waveforms) and production transition.

(GMR) JTRS GMR will provide networking capability using the Wideband Networking Waveform and Soldier Radio Waveform to connect unmanned sensors to decision makers "On-The-Move" (OTM) which will significantly reduce the decision cycle. JTRS GMR will provide the warfighter with mobile Internet-like capabilities such as voice, data, networking and video communications, as well as interoperability with current force and other JTRS radios across the battle space.

(HMS) provides the JTRS capability to meet Joint Ground Mounted, Dismounted & Embedded Radio Requirements. Increment 1, Phase 1 will develop Small-Form-Fit (SFF) SFF-A (1 and 2 Channel), SFF-D and AN/PRC-154 Rifleman Radio running Soldier Radio Waveform (SRW) for use in a sensitive but unclassified environment (Type 2). Increment 1, Phase 2 will develop the 2 Channel Manpack, SFF-B, and 2 Channel Handheld. Phase 2 radios are all Type 1 compliant for use in a classified environment running Ultra High Frequency (UHF), Satellite Communications (SATCOM), High Frequency (HF), Enhanced Position Location and Reporting System (EPLRS), Soldier Radio Waveform (SRW), Mobile User Objective System (MUOS), and Single Channel Ground to Air Radio System (SINCGARS) waveforms.

(JNED) JNED is responsible for the development and delivery of software-defined, legacy radio waveforms and networking waveforms that support Net-Centric operational warfare at sea, air and on the ground. Networking waveforms extend the Global Information Grid (GIG) to the last tactical mile and to the warfighter. The JNED team is responsible for (1) the overall management and oversight of the JTRS Waveform program, (2) development, validation, and evolution of a common JTRS Software Communications Architecture (SCA), (3) development and evolution of waveform software applications, (4) development of software cryptographic algorithms and equipment applications, (5) testing and certification of JTRS waveforms, network services, network management, and software products, and (6) JTRS networking and network management software components. Services are responsible for acquiring and fielding host radio hardware and integrating JTRS into Service platforms.

JUSTIFICATION FOR BUDGET ACTIVITY:
This program is funded under ENGINEERING AND MANUFACTURING DEVELOPMENT because it encompasses engineering and manufacturing development of new end-items prior to production approval decision.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604280N: <i>JT Tact Radio Sys (JTRS)</i> |
|---|--|

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 875.848 | 687.723 | 168.526 | - | 168.526 |
| Current President's Budget | 858.831 | 687.723 | 688.146 | - | 688.146 |
| Total Adjustments | -17.017 | - | 519.620 | - | 519.620 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | 8.326 | - | | | |
| • SBIR/STTR Transfer | -24.387 | - | | | |
| • Program Adjustments | - | - | 520.168 | - | 520.168 |
| • Section 219 Reprogramming | -0.750 | - | - | - | - |
| • Rate/Misc Adjustments | - | - | -0.548 | - | -0.548 |
| • Congressional General Reductions Adjustments | -0.206 | - | - | - | - |

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 9999: *Congressional Adds*

Congressional Add: *JTRS Handheld Small Form Radio Sys*

Congressional Add Subtotals for Project: 9999

Congressional Add Totals for all Projects

| | FY 2010 | FY 2011 |
|--|----------------|----------------|
| | 3.585 | - |
| | 3.585 | - |
| | 3.585 | - |

Change Summary Explanation

The FY12 \$519.620M Program Adjustment is due to the following: JTRS Administrative transfer from Army and Air Force (\$485.346M), NED administrative transfer to O&M,N (-13.870M), plus-up for MIDS Enhanced Link 16 (\$10.800M), plus-up for Over-The-Air-Rekeying/Over-The-Air-Zeroizing (OTAR/OTAZ) (\$6.200M), plus-up for Very High Frequency/Ultra High Frequency Line-of-Sight (V/U LOS) (\$4.300M), plus-up for HMS (17.783M), plus-up to NED for TTNT (\$3.000M), plus-up for AMF Integration and Testing (\$2.109M), and plus-up for DMR (\$4.500M).

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604280N: <i>JT Tact Radio Sys (JTRS)</i> | PROJECT 3020: <i>MIDS/JTRS</i> |
|---|--|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|----------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 3020: <i>MIDS/JTRS</i> | 14.821 | 20.722 | 41.688 | - | 41.688 | 11.105 | 3.003 | 0.732 | 0.625 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

Note

In FY10-FY12, Project No. 3020 represents the total Multifunctional Information Distribution System (MIDS) RDT&E budget for those years. Beginning in FY10, all references to MIDS funding includes funding for both MIDS-LVT and MIDS JTRS.

In FY13-FY16, Project No. 3020 represents the Navy share of the funding associated with MIDS. As part of the JTRS joint program acquisition strategy, each Military Department (MILDEP) budgets for a portion of the total program. The MIDS funding for the Army and Air Force is represented in PE 0604280A and PE 0604280F, respectively.

A. Mission Description and Budget Item Justification

JTRS is the Department of Defense (DoD) family of common software-defined programmable radios that will form the foundation of information radio frequency transmission for Joint Vision 2020. The JTRS family of products will be multifunctional, multiband, multimode, network capable, capable of providing communications through a range of low probability of intercept, low probability of detection and anti-jam waveforms. JTRS products will provide transformational communication capabilities for the warfighter. JTRS is intended to support communications readiness and mission success, in the 2 Megahertz (MHz) to 2 Gigahertz (GHz) operating frequency range, by providing military commanders with the ability to command, control and communicate with their forces via secure voice/video/data media forms. JTRS products are hardware-configurable and software-programmable radio systems that provide increased interoperability, flexibility and adaptability to support varied mission requirements.

(MIDS) MIDS- Low Volume Terminal (LVT) is a jam-resistant, secure, digital (voice and data) information distribution system enabling rapid integrated communications, navigation and identification for tactical and command and control operations. The technical objective of the MIDS JTRS program is to transform the MIDS-LVT into a four-channel, Software Communications Architecture (SCA) compliant JTRS, while maintaining current Link-16 and tactical air navigation system (TACAN) functionality. MIDS JTRS is designed to be plug-and-play interchangeable for U.S. Navy and U.S. Air Force platforms that use MIDS-LVT, while accommodating future technologies and capabilities. Improvements such as Link-16 frequency remapping and programmable crypto are also realized in the MIDS JTRS design. The MIDS JTRS core terminal includes three 2 MHz to 2 GHz programmable channels that allow the warfighter to use multiple waveforms in development by JNED. Total core terminal program requirements include: terminal development, F/A-18 Level 0 integration, software hosting (operating environment/waveforms) and production transition.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|---------------------------------|---------|---------|---------|
| Title: MIDS/JTRS | 14.821 | 20.722 | 41.688 |
| Articles: | 0 | 0 | 0 |
| FY 2010 Accomplishments: | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604280N: <i>JT Tact Radio Sys (JTRS)</i> | PROJECT 3020: <i>MIDS/JTRS</i> |
|---|--|--|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|--|---------|---------|---------|
| <p>Received Limited Production & Fielding decision for Core Terminal program (MIDS JTRS). Began spec development of a Crypto Modernization (CM) capability for MIDS-LVT, a mandate required by the NSA, that will replace or update several hardware, software and firmware components within the MIDS terminal. Started Frequency Remapping development and ECP enhancements, a required Department of Transportation (DOT) mandate to enable the continued use of MIDS Link-16 to remap at least 14 of its 51 data transmission and receipt time slots to frequencies which do not interfere with current and planned Federal Aviation Administration (FAA) safety of flight systems. Continued MIDS systems engineering, COMSEC, Information Assurance (IA) and program management support.</p> <p>FY 2011 Plans: Award Limited Fielding and Production II. Complete testing requirements to achieve Full Production and Fielding decision for Core Terminal program (MIDS JTRS). Develop, test and begin implementation of a Crypto Modernization (CM) capability for MIDS JTRS, a mandate required by the NSA. Complete spec development of MIDS-LVT CM capabilities and ECP enhancements. Begin MIDS-LVT CM design efforts to include technical and interface information, definition of the performance and interface requirements and engineering analysis to finalize interface with the Signal Message Processor (SMP) design. Continue MIDS systems engineering, COMSEC, Information Assurance (IA) and program management support.</p> <p>FY 2012 Plans: Complete testing and implementation of MIDS JTRS Crypto Modernization (CM) capabilities. Begin Enhanced Throughput Link-16 design and development for MIDS-LVT. Continue MIDS-LVT design, development and testing of Crypto Modernization, Frequency Remapping and ECP enhancement capabilities to extend the operational lifetime of currently fielded MIDS-LVT Terminals. Continue MIDS systems engineering, COMSEC, Information Assurance (IA) and program management support.</p> | | | |
| Accomplishments/Planned Programs Subtotals | 14.821 | 20.722 | 41.688 |

| C. Other Program Funding Summary (\$ in Millions) | | | | | | | | | | | |
|--|---------|---------|---------|---------|---------|---------|---------|---------|---------|------------|------------|
| Line Item | FY 2010 | FY 2011 | FY 2012 | FY 2012 | FY 2012 | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To | |
| | | | Base | OCO | Total | | | | | Complete | Total Cost |
| • RDTEA/0604280A: <i>MIDS JTRS</i> | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 7.992 | 1.244 | 0.273 | 0.000 | Continuing | Continuing |
| • RDTEF/0604280F: <i>MIDS JTRS</i> | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 16.748 | 3.009 | 0.845 | 0.000 | Continuing | Continuing |
| • APN/0145: <i>FA-18E/F</i> | 1.715 | 6.678 | 7.957 | 0.000 | 7.957 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 16.350 |
| • APN/0525: <i>F-18 Series</i> | 29.525 | 3.917 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 19.937 | 26.458 | Continuing | Continuing |
| • O&M, 4A6M: <i>Service Wide Comms (MIDS JTRS)</i> | 13.219 | 14.761 | 14.872 | 0.000 | 14.872 | 16.121 | 16.329 | 16.431 | 16.195 | Continuing | Continuing |
| | 3.644 | 3.769 | 3.175 | 0.000 | 3.175 | 3.059 | 3.072 | 3.145 | 3.078 | Continuing | Continuing |

UNCLASSIFIED

| | |
|--|----------------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | DATE: February 2011 |
|--|----------------------------|

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604280N: <i>JT Tact Radio Sys (JTRS)</i> | PROJECT 3020: <i>MIDS/JTRS</i> |
|---|--|--|

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> <u>Base</u> | <u>FY 2012</u> <u>OCO</u> | <u>FY 2012</u> <u>Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
|---|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| • O&M, 4B7N: <i>Space and Electronic Warfare Systems (MIDS LVT)</i> | | | | | | | | | | | |

D. Acquisition Strategy

(MIDS JTRS) MIDS JTRS development was initiated as a major modification to the MIDS-LVT using an Engineering Change Proposal to the existing production contracts. Development efforts included the Phase 2B Core terminal. The U.S. prime contractors from the MIDS-LVT program (Data Link Solutions and ViaSat, Inc.) cooperatively designed and developed the Core terminal. Each prime contractor built and qualified Production Verification Terminals. The U.S. implemented a continuous competition strategy between DLS and ViaSat that will be maintained throughout the MIDS JTRS production phase. This strategy was successfully used on MIDS-LVT production. The FY12 budget supports development and implementation of Crypto Modernization, Frequency Remapping, and Enhanced Throughput capabilities for the MIDS-LVT terminal as well as MIDS system engineering and technical support to the program.

E. Performance Metrics

The five ACAT ID JTRS programs are employing mature, software-defined radio technologies and developing more than 10 million lines of code as part of the Increment 1 baseline. Early on, a JTRS enterprise software metrics requirements effort established a baseline of standard software metrics which are monitored on each JTRS contract involving software development. Example metrics are: the number of requirements and the number of use cases required for design are estimated during the requirement and design phase and analyzed for trend-actual vs. scheduled; the software lines of code (SLOC) counts are used to determine progress during the coding phase; and the execution of test cases as well as trouble reports are monitored during the integration and test phase. Further, a software complexity product metric is collected which demonstrates the testability of the code and is an important criterion for software certification. These software metrics are used to quantify the quality and progress of each software product's development over time. Additionally, MIDS employs Earned Value Metrics to monitor contract performance on its Prime Development Contracts.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604280N: <i>JT Tact Radio Sys (JTRS)</i> | PROJECT 3020: <i>MIDS/JTRS</i> |
|---|--|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| MIDS JTRS HW/SW (Phase 2B Core)1 | C/CPIF | DLS:Cedar Rapids, IA | 120.134 | - | | - | | - | | - | 0.000 | 120.134 | 120.134 |
| MIDS JTRS HW/SW (Phase 2B Core) | C/CPIF | ViaSat Inc:Carlsbad, CA | 125.570 | - | | - | | - | | - | 0.000 | 125.570 | 125.570 |
| MIDS JTRS HW/SW (Phase 2C TTNT JPCP) DLS | C/CPFF | DLS:Cedar Rapids, IA | 11.667 | - | | - | | - | | - | 0.000 | 11.667 | 11.667 |
| MIDS JTRS HW/SW (Phase 2C TTNT JPCP) Via | C/CPFF | ViaSat Inc:Carlsbad, CA | 5.548 | - | | - | | - | | - | 0.000 | 5.548 | 5.548 |
| MIDS JTRS Production Transition dls | C/FFP | DLS:Cedar Rapids, IA | 18.771 | - | | - | | - | | - | 0.000 | 18.771 | 18.771 |
| MIDS JTRS Production Transition via | C/FFP | ViaSat Inc.:Carlsbad, CA | 2.768 | - | | - | | - | | - | 0.000 | 2.768 | 2.768 |
| MIDS JTRS Preoperational Support dls | C/CPFF | DLS:Cedar Rapids, IA | 0.767 | - | | - | | - | | - | 0.000 | 0.767 | 0.767 |
| MIDS JTRS Preoperational Support via | C/CPFF | ViaSat Inc.:Carlsbad, CA | 0.163 | - | | - | | - | | - | 0.000 | 0.163 | 0.163 |
| MIDS JTRS Spec. Development (Phase 2A) dls | C/FFP | DLS:Cedar Rapids, IA | 1.383 | - | | - | | - | | - | 0.000 | 1.383 | 1.383 |
| MIDS JTRS Spec. Development (Phase 2A) via | C/FFP | ViaSat Inc.:Carlsbad, CA | 0.704 | - | | - | | - | | - | 0.000 | 0.704 | 0.704 |
| MIDS JTRS Proposal Prep (Phase 2B Core) dls | C/FFP | DLS:Cedar Rapids, IA | 0.600 | - | | - | | - | | - | 0.000 | 0.600 | 0.600 |
| MIDS JTRS Proposal Prep (Phase 2B Core) via | C/FFP | ViaSat Inc.:Carlsbad, CA | 1.922 | - | | - | | - | | - | 0.000 | 1.922 | 1.922 |
| MIDS JTRS Crypto Mod | C/CPFF | ViaSat Inc:Carlsbad, CA | 1.577 | 4.998 | May 2011 | - | | - | | - | 0.000 | 6.575 | 6.575 |
| MIDS JTRS Crypto Mod | C/CPFF | DLS:Cedar Rapids, IA | 1.577 | 4.998 | May 2011 | - | | - | | - | 0.000 | 6.575 | 6.575 |
| MIDS-LVT CM/ECP Spec Dev | C/FFP | BAE:Fort Wayne, NJ | 0.581 | - | | - | | - | | - | 0.000 | 0.581 | 0.581 |
| MIDS-LVT CM/ECP Spec Dev | C/FFP | DLS:Cedar Rapids, IA | 1.796 | - | | - | | - | | - | 0.000 | 1.796 | 1.796 |
| MIDS-LVT CM/ECP Spec Dev | C/FFP | ViaSat:Carlsbad, CA | 1.980 | - | | - | | - | | - | 0.000 | 1.980 | 1.980 |
| MIDS-LVT CM/ET Development | C/CPFF | DLS:Cedar Rapids, IA | - | 4.723 | May 2011 | - | | - | | - | 0.000 | 4.723 | Continuing |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604280N: <i>JT Tact Radio Sys (JTRS)</i> | PROJECT 3020: <i>MIDS/JTRS</i> |
|---|--|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| MIDS-LVT CM/ET Development | C/CPFF | ViaSat:Carlsbad, CA | - | 4.722 | May 2011 | - | | - | | - | 0.000 | 4.722 | Continuing |
| MIDS-LVT CM/FR/ET Design | C/CPFF | DLS:Cedar Rapids, IA | - | - | | 20.074 | Dec 2011 | - | | 20.074 | Continuing | Continuing | Continuing |
| MIDS-LVT CM/FR/ET Design | C/CPFF | ViaSat:Carlsbad, CA | - | - | | 20.074 | Dec 2011 | - | | 20.074 | Continuing | Continuing | Continuing |
| Subtotal | | | 297.508 | 19.441 | | 40.148 | | - | | 40.148 | | | |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|---------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| F/A-18 Level 0 Development Support (Unique) cl | WR | NAWS, China Lake:Ridgecrest, CA | 1.526 | - | | - | | - | | - | 0.000 | 1.526 | 1.526 |
| F/A-18 Level 0 Integrated Logistics Suppor (Unique) pax | WR | NAWC:Pax River, MD | 0.412 | - | | - | | - | | - | 0.000 | 0.412 | 0.412 |
| Subtotal | | | 1.938 | - | | - | | - | | - | 0.000 | 1.938 | 1.938 |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| F/A-18 Level 0 Developmental Test & Evaluation (Unique) | WR | NAWC:Pax River, MD | 5.409 | - | | - | | - | | - | 0.000 | 5.409 | 5.409 |
| F/A-18 Level 0 Operational Test & Evaluation (Unique) | WR | NAWS China Lake:Ridgecrest, CA | 1.028 | - | | - | | - | | - | 0.000 | 1.028 | 1.028 |
| F/A-18 Test Assets dls | C/FFP | DLS:Cedar Rapids, IA | 8.850 | - | | - | | - | | - | 0.000 | 8.850 | 8.850 |
| F/A-18 Test Assets via | C/FFP | ViaSat, Inc:Carlsbad, CA | 7.365 | - | | - | | - | | - | 0.000 | 7.365 | 7.365 |
| * F/A-18 EDMs dls | C/FFP | DLS:Cedar Rapids, IA | 2.740 | - | | - | | - | | - | 0.000 | 2.740 | 2.740 |
| * F/A-18 EDMs via | C/FFP | ViaSat, Inc.:Carlsbad, CA | 2.475 | - | | - | | - | | - | 0.000 | 2.475 | 2.475 |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604280N: <i>JT Tact Radio Sys (JTRS)</i> | PROJECT 3020: <i>MIDS/JTRS</i> |
|---|--|--|

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Engineering Support and Labor/SCS Changes | WR | NAWS China Lake:Ridgecrest, CA | 10.519 | - | | - | | - | | - | 0.000 | 10.519 | 10.519 |
| Government Testing | WR | SSC:San Diego, CA | 1.745 | - | | - | | - | | - | 0.000 | 1.745 | 1.745 |
| NAVAIR Labor | WR | NAWC:Pax River, MD | 4.231 | - | | - | | - | | - | 0.000 | 4.231 | 4.231 |
| ECP 6277 Preparation | WR | NAWC:Pax River, MD | 1.963 | - | | - | | - | | - | 0.000 | 1.963 | 1.963 |
| Subtotal | | | 46.325 | - | | - | | - | | - | 0.000 | 46.325 | 46.325 |

Remarks
Items marked with an asterisk (*) designate Navy unique tasks.

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|---------------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Contractor Engineering Support | C/CPFF | General Dynamics/Syntek:San Diego, Ca | 15.145 | - | | - | | - | | - | 0.000 | 15.145 | 15.145 |
| Workforce Acquisition Fund | C/FP | Not Specified:Not Specified | 0.135 | - | | - | | - | | - | 0.000 | 0.135 | 0.135 |
| Travel | WR | Not Specified:Not Specified | 1.020 | - | | - | | - | | - | 0.000 | 1.020 | 1.020 |
| Government Engineering | WR | SSC:San Diego, Ca | 22.705 | 0.983 | Dec 2010 | 1.040 | Dec 2011 | - | | 1.040 | 0.000 | 24.728 | 23.745 |
| Airborne Networking Support | WR | SSC:San Diego, Ca | 1.313 | - | | - | | - | | - | 0.000 | 1.313 | 1.313 |
| Program Management Support | C/CPFF | Booz Allen Hamilton/SSC:San Diego, Ca | 8.323 | 0.188 | Dec 2010 | - | | - | | - | 0.000 | 8.511 | 8.511 |
| Information Assurance Support | MIPR | NSA:Fort George Meade, MD | - | 0.110 | Jan 2011 | 0.500 | Jan 2012 | - | | 0.500 | 0.000 | 0.610 | 0.610 |
| Subtotal | | | 48.641 | 1.281 | | 1.540 | | - | | 1.540 | 0.000 | 51.462 | 50.479 |

| | Total Prior Years Cost | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|------------------------|---------|--------|--------------|--------|-------------|---|---------------|------------------|------------|--------------------------|
| Project Cost Totals | | 394.412 | 20.722 | | 41.688 | | - | 41.688 | | | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | R-1 ITEM NOMENCLATURE | PROJECT | | | | | | |
|---|--|------------------------|-------------------------|------------------------|--------------------------|-----------------------------|-------------------|---|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | PE 0604280N: <i>JT Tact Radio Sys (JTRS)</i> | 3020: <i>MIDS/JTRS</i> | | | | | | |
| | Total Prior Years Cost | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |

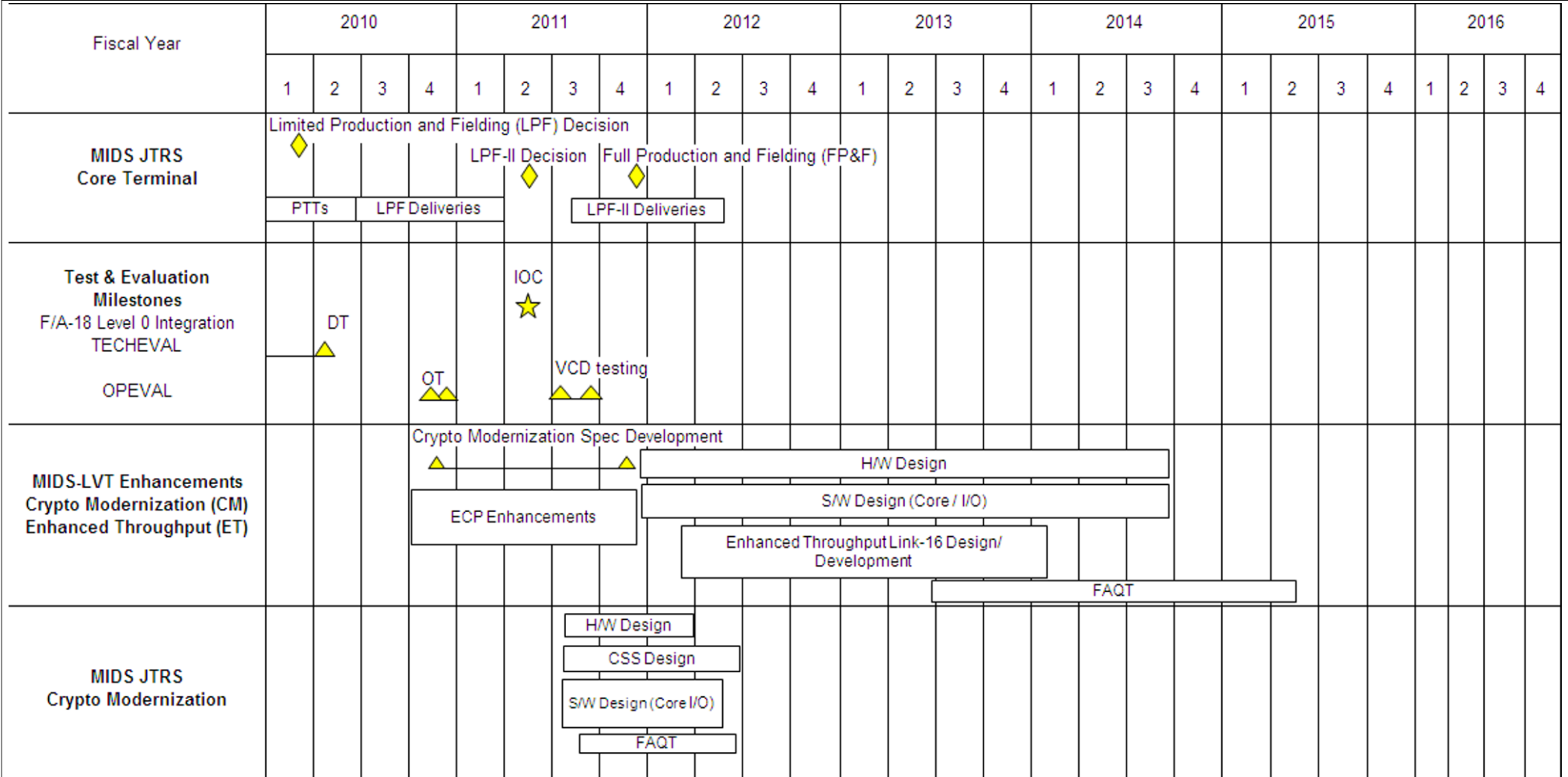
Remarks

In PYS-FY12, Project No. 3020 represents the total MIDS RDT&E budget for those years.
 In FY13-FY16, Project No. 3020 represents the Navy share of the funding associated with MIDS. As part of the JTRS joint program acquisition strategy, each Military Department (MILDEP) budgets for a portion of the total program. MIDS funding for the Army and Air Force is represented in PE 0604280A and PE 0604280F, respectively.

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604280N: <i>JT Tact Radio Sys (JTRS)</i> | PROJECT 3020: <i>MIDS/JTRS</i> |
|---|--|--|



UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604280N: <i>JT Tact Radio Sys (JTRS)</i> | PROJECT 3020: <i>MIDS/JTRS</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 3020 | | | | |
| MIDS JTRS Core Terminal: Phase 2B-Limited Fielding and Production Decision | 1 | 2010 | 1 | 2010 |
| MIDS JTRS Core Terminal: Phase 2B-Production Transition Terminal Delivery | 1 | 2010 | 2 | 2010 |
| MIDS JTRS Core Terminal: Phase 2B-Limited Fielding and Production Delivery | 2 | 2010 | 1 | 2011 |
| MIDS JTRS Core Terminal: Phase 2B-Limited Fielding and Production II | 2 | 2011 | 2 | 2011 |
| MIDS JTRS Core Terminal: Phase 2B-Limited Fielding and Production II Delivery | 3 | 2011 | 2 | 2012 |
| MIDS JTRS Core Terminal: Phase 2B-Full Production and Fielding Decision | 4 | 2011 | 4 | 2011 |
| MIDS JTRS Core Terminal: Test and Evaluation-Technical Evaluation (TECHEVAL) | 1 | 2010 | 2 | 2010 |
| MIDS JTRS Core Terminal: Test and Evaluation-Operational Evaluation (OPEVAL) | 4 | 2010 | 4 | 2010 |
| MIDS JTRS Core Terminal: Test and Evaluation-Initial Operational Capability (IOC) | 2 | 2011 | 2 | 2011 |
| MIDS JTRS Core Terminal: Verification of Correction of Deficiencies (VCD) | 3 | 2011 | 3 | 2011 |
| MIDS-LVT Enhancements: Crypto Modernization (CM) -Spec Development | 4 | 2010 | 4 | 2011 |
| MIDS-LVT Enhancements: CM -ECP Enhancements | 4 | 2010 | 4 | 2011 |
| MIDS-LVT Enhancements: Enhanced Throughput Link-16 Design/Development | 1 | 2012 | 1 | 2014 |
| MIDS-LVT Enhancements: CM -H/W Design | 4 | 2011 | 3 | 2014 |
| MIDS-LVT Enhancements: CM -S/W Design | 4 | 2011 | 3 | 2014 |
| MIDS-LVT Enhancements: CM -FAQT | 2 | 2013 | 2 | 2015 |
| MIDS JTRS Crypto Modernization: H/W Design | 3 | 2011 | 1 | 2012 |
| MIDS JTRS Crypto Modernization: FAQT | 3 | 2011 | 2 | 2012 |
| MIDS JTRS Crypto Modernization: CSS Design | 3 | 2011 | 2 | 2012 |
| MIDS JTRS Crypto Modernization: S/W Design | 3 | 2011 | 2 | 2012 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604280N: <i>JT Tact Radio Sys (JTRS)</i> | PROJECT 3073: <i>AMF JTRS</i> |
|---|--|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|----------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 3073: <i>AMF JTRS</i> | 306.018 | 407.334 | 349.920 | - | 349.920 | 65.385 | 21.324 | 3.381 | 0.163 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

Note
In FY10-FY12, Project No. 3073 represents the total AMF JTRS RDT&E budget for those years.

In FY13-FY16, Program Element (PE) 0604280N represents the Navy share of the funding associated with AMF JTRS. As part of the JTRS joint program acquisition strategy, each Military Department (MILDEP) budgets for a portion of the total program. Thus in FY13-16 a portion of JTRS development is represented in this PE, in Army PE 0604280A, and in Air Force PE 0604280F.

A. Mission Description and Budget Item Justification

JTRS is the Department of Defense (DoD) family of common software-defined programmable radios that will form the foundation of information radio frequency transmission for Joint Vision 2020. The JTRS family of products will be multifunctional, multiband, multimode, network capable, capable of providing communications through a range of low probability of intercept, low probability of detection and anti-jam waveforms. JTRS products will provide transformational communication capabilities for the warfighter. JTRS is intended to support communications readiness and mission success, in the 2 Megahertz (MHz) to 2 Gigahertz (GHz) operating frequency range, by providing military commanders with the ability to command, control and communicate with their forces via secure voice/video/data media forms. JTRS products are hardware-configurable and software-programmable radio systems that provide increased interoperability, flexibility and adaptability to support varied mission requirements.

(AMF) AMF JTRS is a key enabler to the transformation of airborne, maritime, and land based communications toward network-centric operations. AMF JTRS will operate with legacy radios and waveforms used by military airborne, surface, subsurface, and fixed station platforms. AMF JTRS is intended to provide new radio networking capability as well as replace existing radio systems, which are facing long-term sustainment issues. AMF JTRS capabilities will be incrementally developed, with each increment building on the technological achievements of its predecessor, while providing expanded capabilities.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| Title: AMF JTRS | 304.692 | 407.334 | 349.920 |
| Articles: | 0 | 0 | 0 |
| FY 2010 Accomplishments: Conducted Critical Design Review in 1st quarter FY10. Continued EDM hardware and non-waveform software development and integration; continued waveform porting activities; continued platform integration development for AMF test program; conducted initial hardware and software demonstration with the AMF JTR Set-SA (Link-16); and continued NSA information assurance | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604280N: <i>JT Tact Radio Sys (JTRS)</i> | PROJECT 3073: <i>AMF JTRS</i> |
|---|--|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|--|------------|---------|---------|
| activities and verification of design. Continued development engineering and management support for associated JTR system components. FY 2011 Plans: Continue EDM hardware and non-waveform software development and integration; continue waveform porting activities; conduct initial hardware and software demonstration with the AMF JTR Set-SA (WNW) and AMF JTR Set-M/F; deliver AMF JTR Set-SA EDMs; continue platform integration development for AMF test program; begin Integrated Test Airborne B (ITA B); begin Integrated Test Maritime B (ITM B); prepare for Milestone C; and continue NSA information assurance activities and verification of design. Continue development engineering and management support for associated JTR system components. FY 2012 Plans: Deliver AMF JTR Set-MF EDMs; conduct Milestone C; conduct LRIP-1; complete Integrated Test Maritime B (ITM B); conduct System Verification Review/Production Readiness Review for AMF JTR Set-SA; complete Integrated Test Airborne B (ITA B); continue platform integration development for AMF test program; continue NSA information assurance activities and verification of design; continue as necessary hardware and software support for integration, testing and low rate initial production; continue engineering and management support for associated JTR system components. | | | |
| Title: Digital Modular Radio FY 2010 Accomplishments: Procured test asset for integration and laboratory testing to develop prototype DMR system that expands the current HF function into a broadband HF functionality. | 1.326 0 | - | - |
| Articles: | | | |
| Accomplishments/Planned Programs Subtotals | 306.018 | 407.334 | 349.920 |

| C. Other Program Funding Summary (\$ in Millions) | | | | | | | | | | | |
|--|---------|---------|---------|---------|---------|---------|---------|---------|---------|------------|------------|
| Line Item | FY 2010 | FY 2011 | FY 2012 | FY 2012 | FY 2012 | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To | |
| | | | Base | OCO | Total | | | | | Complete | Total Cost |
| • RDTEA/0604280A: <i>AMF JTRS</i> | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 68.187 | 19.596 | 2.113 | 0.000 | Continuing | Continuing |
| • RDTEF/0604280F: <i>AMF JTRS</i> | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 64.381 | 24.251 | 2.132 | 0.000 | Continuing | Continuing |
| | 0.000 | 0.000 | 24.703 | 0.000 | 24.703 | 12.190 | 26.718 | 39.022 | 52.192 | Continuing | Continuing |

UNCLASSIFIED

| | | |
|---|--|---|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604280N: <i>JT Tact Radio Sys (JTRS)</i> | PROJECT 3073: <i>AMF JTRS</i> |

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> <u>Base</u> | <u>FY 2012</u> <u>OCO</u> | <u>FY 2012</u> <u>Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
|---|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| • OPN/3010: <i>SHIP TACTICAL COMMUNICATIONS</i> | | | | | | | | | | | |

D. Acquisition Strategy

The FY12 budget supports the JTRS AMF Engineering Manufacturing and Development (EMD) (formerly SDD, changed as a result of updates to the DoD Instruction 5000.02) efforts. A joint AF/Navy/Army team manages the development of a common core radio design that will be the basis for satisfying the AMF requirements. AMF completed Pre-System Development and Demonstration (SDD) contracts in early FY07, which were awarded to two competing vendors in late FY04. These efforts included System, Hardware, and Software Development reviews, Preliminary Design Reviews and technical risk reduction activities. The AMF program awarded the SDD contract on March 28, 2008. This effort is leveraging technical solutions derived from efforts resulting from the Pre-SDD contracts as well as from JPEO JTRS Enterprise activities. A Critical Design Review (CDR) was completed 1st Qtr FY10. EMD continues in FY11 and FY12 for the AMF JTRS system Engineering Development Models (EDMs), associated testing and integration, development engineering and management support for associated JTR system components. AMF JTRS capabilities will be incrementally developed, with each increment building on the technological achievements of its predecessor, while providing expanded capabilities.

E. Performance Metrics

The five ACAT ID JTRS programs are employing mature, software-defined radio technologies and developing more than 10 million lines of code as part of the Increment 1 baseline. Early on, a JTRS enterprise software metrics requirements effort established a baseline of standard software metrics which are monitored on each JTRS contract involving software development. Example metrics are: the number of requirements and the number of use cases required for design are estimated during the requirement and design phase and analyzed for trend-actual vs. scheduled; the software lines of code (SLOC) counts are used to determine progress during the coding phase; and the execution of test cases as well as trouble reports are monitored during the integration and test phase. Further, a software complexity product metric is collected which demonstrates the testability of the code and is an important criterion for software certification. These software metrics are used to quantify the quality and progress of each software product's development over time. Additionally, AMF employs Earned Value Metrics to monitor contract performance on the Prime Development Contract.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604280N: <i>JT Tact Radio Sys (JTRS)</i> | PROJECT 3073: <i>AMF JTRS</i> |
|---|--|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|--|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| MIDS JTRS HW/SW (Phase 2A/2B Core) dls | C/CPIF | DLS:Cedar Rapids, IA | 8.563 | - | | - | | - | | - | 0.000 | 8.563 | 8.563 |
| MIDS JTRS HW/SW (Phase 2A/2B Core) via | C/CPIF | ViaSat Inc:Carlsbad, CA | 4.078 | - | | - | | - | | - | 0.000 | 4.078 | 4.078 |
| AMF JTRS Development - JTR System (Pre-SDD) Boeing | C/CPFF | The Boeing Co:Anaheim, CA | 45.603 | - | | - | | - | | - | 0.000 | 45.603 | 45.603 |
| AMF JTRS Development - JTR System (Pre-SDD) LM | C/CPFF | Lockheed Martin:Manassas, VA | 45.335 | - | | - | | - | | - | 0.000 | 45.335 | 45.335 |
| AMF JTRS Development - JTR SET (SDD) LM | C/CPIF | Lockheed Martin:Manassas, VA | 526.500 | 256.700 | Oct 2010 | 202.000 | Oct 2011 | - | | 202.000 | Continuing | Continuing | Continuing |
| AMF JTRS - Systems Engineering | WR | Various:Various | 107.103 | 20.580 | Oct 2010 | 20.346 | Oct 2011 | - | | 20.346 | Continuing | Continuing | Continuing |
| Systems Engineering - JTRS Implementation-Navy Unique | WR | Various:Various | 15.634 | - | | - | | - | | - | 0.000 | 15.634 | 15.634 |
| H/W Development: DMR HF Power Amplifier | C/FFP | GDDS:Various | 6.227 | - | | - | | - | | - | 0.000 | 6.227 | 4.901 |
| Systems Engineering - JTF WARNET | WR | Various:Various | 7.481 | - | | - | | - | | - | 0.000 | 7.481 | 7.481 |
| JTRS HMS Design, Development and Manufacture of Engineering Development Models (EDMs) | C/CPAF | General Dynamics C4 Systems:Scottsdale, AZ | - | 28.666 | Mar 2011 | - | | - | | - | Continuing | Continuing | Continuing |
| Subtotal | | | 766.524 | 305.946 | | 222.346 | | - | | 222.346 | | | |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| AMF JTRS - Acquisition, and ILS Support | WR | Various:Various | 24.829 | 8.752 | Oct 2010 | 10.377 | Oct 2011 | - | | 10.377 | Continuing | Continuing | Continuing |
| Software Dev: DMR Build 6.4 | C/FFP | GDDS:Various | 12.861 | - | | - | | - | | - | 0.000 | 12.861 | 12.861 |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604280N: <i>JT Tact Radio Sys (JTRS)</i> | PROJECT 3073: <i>AMF JTRS</i> |
|---|--|---|

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---------------------------------|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| Subtotal | | | 37.690 | 8.752 | | 10.377 | | - | | 10.377 | | | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| AMF JTRS - Test and Evaluation and Test Support | WR | Various:Various | 41.567 | 86.950 | Oct 2010 | 107.427 | Oct 2011 | - | | 107.427 | Continuing | Continuing | Continuing |
| DMR T&E (FOTE) SD | WR | SSC:San Diego, CA | 3.999 | - | | - | | - | | - | 0.000 | 3.999 | 1.724 |
| DMR T&E (FOTE) CHARL | WR | SSC:Charleston, SC | 1.732 | - | | - | | - | | - | 0.000 | 1.732 | 1.732 |
| AMF JTRS Navy Specific Integration | C/CPIF | Various:Various | - | - | | 2.107 | Oct 2011 | - | | 2.107 | Continuing | Continuing | Continuing |
| Subtotal | | | 47.298 | 86.950 | | 109.534 | | - | | 109.534 | | | |

Remarks
Navy Specific Integration - Funds for Navy to complete the integration and OPEVAL of AMF-M/F terminals on CVN, SSN and Shore location.

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|--|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| AMF Business Operations Management and Support | WR | Various:Various | 28.474 | 5.686 | Oct 2010 | 7.663 | Oct 2011 | - | | 7.663 | Continuing | Continuing | Continuing |
| Acquisition Workforce Fund - 2009 | C/FP | Various:Various | 1.039 | - | | - | | - | | - | 0.000 | 1.039 | 1.039 |
| Subtotal | | | 29.513 | 5.686 | | 7.663 | | - | | 7.663 | | | |

| | Total Prior Years Cost | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract | |
|----------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|--|
| | | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | | |
| Project Cost Totals | | 881.025 | 407.334 | | | 349.920 | | - | | 349.920 | | |

UNCLASSIFIED

UNCLASSIFIED

| | |
|---|----------------------------|
| Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy | DATE: February 2011 |
|---|----------------------------|

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604280N: <i>JT Tact Radio Sys (JTRS)</i> | PROJECT 3073: <i>AMF JTRS</i> |
|---|--|---|

| | Total Prior Years Cost | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|--|------------------------|---------|--------------|-------------|---------------|------------------|------------|--------------------------|
|--|------------------------|---------|--------------|-------------|---------------|------------------|------------|--------------------------|

Remarks

PY column only includes the Navy portion of the budget for AMF JTRS; prior to FY07, Air Force AMF JTRS funding resided in Air Force PE 0604280F, Project 5068. Prior to FY07, Navy AMF JTRS funding resided in this Navy PE, Project 3073. FY07-FY10 PYs represent the total AMF JTRS RDT&E budget for those years.

In FY11-FY12, Project No. 3073 represents the total AMF JTRS RDT&E budget.

In FY13-16 Project No. 3073 represents a portion of the total AMF JTRS RDT&E budget. As part of the JTRS joint program acquisition strategy, each MILDEP budgets for a portion of the total program. Thus, a portion of AMF is represented in this PE, in Army PE 0604280A, and in Air Force PE 0604280F.

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604280N: <i>JT Tact Radio Sys (JTRS)</i> | PROJECT 3073: <i>AMF JTRS</i> |
|---|--|---|

| Fiscal Year | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | 2014 | | | | 2015 | | | | 2016 | | | |
|---|-------|---|---|---------------------|------|---|---|-------------------|------|---|---|-----------|------|---|---|-------------------|------|---|---|----------|------|---|---|------------|------|---|---|------------|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| AMF JTRS Acquisition Milestone Schedule | | | | | | | | | | | | ▼ MS C | | | | | | | | | | | | | | | | |
| AMF JTRS Product Development Schedule | ▼ CDR | | | | | | | | | | | ▼ IHSD-MF | | | | ▼ EDM Delivery-MF | | | | ▼ ITM-C1 | | | | ▼ ITM-C2 | | | | ▼ IOT&E-MF |
| | | | | ▲ IHSD-SA (Link-16) | | | | ▲ EDM Delivery-SA | | | | ▲ LRIP-1 | | | | ▲ ITA-C1 | | | | ▲ ITA-C2 | | | | ▲ IOT&E-SA | | | | |
| | | | | | | | | ▲ IHSD-SA (WNW) | | | | | | | | | | | | | | | | | | | | |

| | | |
|--|-----------------------------------|--|
| ACRONYMS: | | |
| CDR: Critical Design Review | LRIP: Low-Rate Initial Production | EDM: Engineering Development Model |
| IHSD: Integrated Hardware/Software Demonstration | SA: Small Airborne | MF: Maritime Fixed |
| MS: Milestone | ITA: Integrated Test Airborne | ITM: Integrated Test Maritime |
| | | IOT&E: Initial Operational Test & Evaluation |

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604280N: <i>JT Tact Radio Sys (JTRS)</i> | PROJECT 3073: <i>AMF JTRS</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 3073 | | | | |
| Critical Design Review (CDR) | 1 | 2010 | 1 | 2010 |
| Initial HW/SW Demonstration - SA (IHSD-SA Link-16) | 4 | 2010 | 4 | 2010 |
| Initial HW/SW Demonstration - SA (IHSD-SA WNW) | 2 | 2011 | 2 | 2011 |
| Initial HW/SW Demonstration - M/F (IHSD-MF) | 4 | 2011 | 4 | 2011 |
| Eng Dev Model (EDM) Delivery- SA | 2 | 2011 | 2 | 2011 |
| Eng Dev Model (EDM) Delivery- M/F | 3 | 2012 | 3 | 2012 |
| Milestone C (MS C) | 3 | 2012 | 3 | 2012 |
| Low-Rate Initial Production I | 3 | 2012 | 3 | 2012 |
| Complete Integrated Test Airborne - C1 (ITA-C1 EDM) | 1 | 2013 | 1 | 2013 |
| Complete Integrated Test Maritime - C1 (ITM-C1 EDM) | 4 | 2013 | 4 | 2013 |
| Complete Integrated Test Airborne - C2 (ITA-C2 LRIP) | 1 | 2014 | 1 | 2014 |
| Complete Integrated Test Maritime - C2 (ITM-C2 LRIP) | 1 | 2014 | 1 | 2014 |
| Complete Initial Operational Test & Evaluation-SA (IOT&E-SA) | 2 | 2014 | 2 | 2014 |
| Complete Initial Operational Test & Evaluation-MF (IOT&E-MF) | 2 | 2014 | 2 | 2014 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604280N: <i>JT Tact Radio Sys (JTRS)</i> | PROJECT 3074: <i>GMR JTRS</i> |
|---|--|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|----------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 3074: <i>GMR JTRS</i> | 200.332 | 101.404 | 18.732 | - | 18.732 | 2.278 | 0.847 | 0.028 | 0.026 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

Note

In FY10-FY12, Project No. 3074 represents the total Ground Mobile Radio (GMR) JTRS RDT&E budget for those years.

In FY13-FY16, Program Element (PE) 0604280N represents the Navy share of the funding associated with GMR JTRS. As part of the JTRS joint program budget strategy, each Military Department (MILDEP) budgets for a portion of the total program. Thus in FY13-16 a portion of JTRS development is represented in this PE, in Army PE 0604280A, and in Air Force PE 0604280F.

A. Mission Description and Budget Item Justification

JTRS is the Department of Defense (DoD) family of common software-defined programmable radios that will form the foundation of information radio frequency transmission for Joint Vision 2020. The JTRS family of products will be multifunctional, multiband, multimode, network capable, capable of providing communications through a range of low probability of intercept, low probability of detection and anti-jam waveforms. JTRS products will provide transformational communication capabilities for the warfighter. JTRS is intended to support communications readiness and mission success, in the 2 Megahertz (MHz) to 2 Gigahertz (GHz) operating frequency range, by providing military commanders with the ability to command, control and communicate with their forces via secure voice/video/data media forms. JTRS products are hardware-configurable and software-programmable radio systems that provide increased interoperability, flexibility and adaptability to support varied mission requirements.

(GMR) JTRS GMR will provide networking capability using the Wideband Networking Waveform and Soldier Radio Waveform to connect unmanned sensors to decision makers "On-The-Move" (OTM) which will significantly reduce the decision cycle. JTRS GMR will provide the warfighter with mobile Internet-like capabilities such as voice, data, networking and video communications, as well as interoperability with current force and other JTRS radios across the battle space using new networking Waveforms and current Waveforms.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|--|---------|---------|---------|
| Title: GMR JTRS | 200.332 | 101.404 | 18.732 |
| Articles: | 0 | 0 | 0 |
| FY 2010 Accomplishments: Supported the design, development, manufacture and delivery of GMR EDMs, technical support, System Integration Test (SIT), and completion of Production Qualification Test (PQT). | | | |
| FY 2011 Plans: Continue to support the design, development, manufacture and delivery of GMR EDMs, technical support, and | | | |

UNCLASSIFIED

| | | |
|---|--|---|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604280N: <i>JT Tact Radio Sys (JTRS)</i> | PROJECT 3074: <i>GMR JTRS</i> |

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|--|----------------|----------------|----------------|
| Limited User Test (LUT). | | | |
| <i>FY 2012 Plans:</i> Complete development, achieve Milestone C, support preparation and conduct of Multi-service Operational Test and Evaluation (MOT&E), National Security Agency (NSA) Certification, and upgrade of Enhanced Position Location and Reporting System (EPLRS) crypto modification. | | | |
| Accomplishments/Planned Programs Subtotals | 200.332 | 101.404 | 18.732 |

C. Other Program Funding Summary (\$ in Millions)

| Line Item | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|----------------|----------------|---------------------|--------------------|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| • RDTEA/0604280A: <i>GMR JTRS</i> | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 19.700 | 27.814 | 8.493 | 0.674 | Continuing | Continuing |
| • RDTEF/0604280F: <i>GMR JTRS</i> | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 2.458 | 1.000 | 0.127 | 0.000 | Continuing | Continuing |
| • RDTEA/0604805A: <i>JTRS Cluster 1/ GMR</i> | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 571.542 |
| • PMC/4633: <i>Radio Systems</i> | 4.985 | 24.377 | 9.426 | 0.000 | 9.426 | 8.498 | 5.635 | 0.000 | 0.000 | 0.000 | 52.921 |

D. Acquisition Strategy

This project supports the JTRS GMR Engineering & Manufacturing Development (EMD) efforts. After a Milestone (MS) B Decision in 3QFY02, the GMR development effort was awarded to develop multichannel ground and airborne configurations (airborne is now realigned under AMF). The JTRS GMR supports an evolutionary acquisition strategy and was based on an aggressive acquisition schedule. In June 2002, a Cost Plus Award Fee (CPAF) contract was competitively awarded to develop or acquire numerous SCA compliant waveforms, define common form-fit-function configurations for vehicular versions of the JTRS hardware, and successfully port the waveforms to JTRS hardware produced by two different developers. Although Waveform development is part of the contract, the Waveform development is funded and managed under the JNED. A software reprogrammable radio providing the warfighter with the multiband and multimode capability, networkable radio system providing simultaneous voice, data and video communications to increase interoperability, flexibility, and adaptability in support of varied mission requirements for vehicular platforms is being developed. The Engineering Development Model (EDM) designs are complete.

E. Performance Metrics

The five ACAT 1D JTRS programs are employing mature, software-defined radio technologies and developing more than 10 million lines of code as part of the Increment 1 baseline. Early on, a JTRS enterprise software metrics requirements effort established a baseline of standard software metrics which are monitored on each JTRS contract involving software development. Example metrics are: the number of requirements and the number of use cases required for design are estimated during the requirement and design phase and analyzed for trend-actual vs. scheduled; the software lines of code (SLOC) counts are used to determine progress during the coding phase; and the execution of test cases as well as trouble reports are monitored during the integration and test phase. Further, a software complexity product metric is collected which demonstrates the testability of the code and is an important criterion for software certification. These software metrics are used to quantify

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | R-1 ITEM NOMENCLATURE | PROJECT |
|---|--|-----------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | PE 0604280N: <i>JT Tact Radio Sys (JTRS)</i> | 3074: <i>GMR JTRS</i> |

the quality and progress of each software product's development over time. Additionally, GMR employs Earned Value Metrics to monitor contract performance on the Prime Development Contract.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604280N: <i>JT Tact Radio Sys (JTRS)</i> | PROJECT 3074: <i>GMR JTRS</i> |
|---|--|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| JTRS GMR GFE | MIPR | PEO C3T:Ft. Monmouth, NJ | 4.000 | - | | - | | - | | - | 0.000 | 4.000 | 4.000 |
| JTRS GMR GFE | C/CPAF | GENERAL DYNAMICS:Scottsdale, AZ | 0.202 | 0.500 | Nov 2010 | - | | - | | - | 0.000 | 0.702 | 0.702 |
| JTRS GMR SDD | C/CPAF | BOEING:Anaheim, CA | 771.012 | 75.129 | Oct 2010 | 8.261 | Oct 2011 | - | | 8.261 | Continuing | Continuing | Continuing |
| JTRS DEVELOPMENT - System Engineering Support | MIPR | PEO C3T:Ft. Monmouth, NJ | 13.733 | 3.005 | Jan 2011 | - | | - | | - | 0.000 | 16.738 | 16.738 |
| Technology Development efforts | MIPR | PEO C3T:Ft. Monmouth, NJ | 16.761 | 4.205 | Jan 2011 | - | | - | | - | 0.000 | 20.966 | 20.966 |
| Subtotal | | | 805.708 | 82.839 | | 8.261 | | - | | 8.261 | | | |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| JTRS Antenna Study | MIPR | PEO C3T:Ft. Monmouth, NJ | 2.025 | - | | - | | - | | - | 0.000 | 2.025 | 2.025 |
| JTRS Tech Support | MIPR | PEO C3T:Ft. Monmouth, NJ | 7.140 | 2.204 | Jan 2011 | - | | - | | - | 0.000 | 9.344 | 9.344 |
| JTRS MUOS Support | C/CPFF | Johns Hopkins University:Laural, MD | 0.623 | - | | - | | - | | - | 0.000 | 0.623 | 0.623 |
| DIACAP Support | MIPR | PEO C3T:Ft. Monmouth, NJ | 0.960 | - | | 0.500 | Oct 2011 | - | | 0.500 | 0.000 | 1.460 | 1.460 |
| Subtotal | | | 10.748 | 2.204 | | 0.500 | | - | | 0.500 | 0.000 | 13.452 | 13.452 |

Remarks
 PYs column only reflects prior year Navy GMR JTRS costs for FY07-10. Prior to FY07, GMR JTRS funding resided in Army PE 0604805A, Project 615. In FY11 and FY12, Project No. 3074 represents the total GMR JTRS RDT&E budget. In FY13-16, Project No. 3074 represents a portion of the total GMR JTRS RDT&E budget. As part of the JTRS joint program acquisition strategy, each MILDEP budgets for a portion of the total program. Thus, a portion of GMR is represented in this PE, in Army PE 0604280A, and in Air Force PE 0604280F.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604280N: <i>JT Tact Radio Sys (JTRS)</i> | PROJECT 3074: <i>GMR JTRS</i> |
|---|--|---|

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | Target Value of Contract |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | |
| JTRS EPG test bed & test planning | MIPR | EPG:Fort Huachuca, AZ | 12.897 | 5.400 | Jan 2011 | 2.100 | Oct 2011 | - | | 2.100 | Continuing | Continuing | Continuing |
| JTRS M&S | MIPR | USAIC:Fort Huachuca, AZ | 7.384 | - | Jan 2011 | - | | - | | - | Continuing | Continuing | Continuing |
| JTRS Test In-house Spt & Gov activities | MIPR | PEO C3T:Ft. Monmouth, NJ | 9.393 | 1.987 | Jan 2011 | 2.850 | Oct 2011 | - | | 2.850 | Continuing | Continuing | Continuing |
| JTRS EOA/SIT/LUT/MOTE Test Activity | MIPR | EPG:Fort Huachuca, AZ | 12.408 | 4.616 | Jan 2011 | 3.221 | Oct 2011 | - | | 3.221 | Continuing | Continuing | Continuing |
| Subtotal | | | 42.082 | 12.003 | | 8.171 | | - | | 8.171 | | | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | Target Value of Contract |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | |
| JTRS Business Engineering Mgmt | MIPR | PEO C3T:Ft. Monmouth, NJ | 14.342 | 1.849 | Jan 2011 | 0.600 | Oct 2011 | - | | 0.600 | Continuing | Continuing | Continuing |
| PMO Support | MIPR | PEO C3T:Ft. Monmouth, NJ | 27.080 | 2.509 | Jan 2011 | 1.200 | Oct 2011 | - | | 1.200 | Continuing | Continuing | Continuing |
| JTRS MITRE support | MIPR | MITRE:Ft. Monmouth, NJ | 0.513 | - | | - | | - | | - | 0.000 | 0.513 | 0.513 |
| Acquisition Workforce Fund | C/FP | Not Specified:Not Specified | 1.167 | - | | - | | - | | - | 0.000 | 1.167 | 1.167 |
| Subtotal | | | 43.102 | 4.358 | | 1.800 | | - | | 1.800 | | | |

| | Total Prior Years Cost | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|------------------------|---------|--------------|-------------|---------------|------------------|------------|--------------------------|
| Project Cost Totals | | 901.640 | 101.404 | 18.732 | - | 18.732 | | |

Remarks
 PYs column only reflects prior year Navy GMR JTRS costs for FY07-10. Prior to FY07, GMR JTRS funding resided in Army PE 0604805A, Project 615. In FY11 and FY12, Project No. 3074 represents the total GMR JTRS RDT&E budget. In FY13-16, Project No. 3074 represents a portion of the total GMR JTRS RDT&E budget. As part of the JTRS joint program acquisition strategy, each MILDEP budgets for a portion of the total program. Thus, a portion of GMR is represented in this PE, in Army PE 0604280A, and in Air Force PE 0604280F.

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604280N: <i>JT Tact Radio Sys (JTRS)</i> | PROJECT 3074: <i>GMR JTRS</i> |
|---|--|---|

| Fiscal Year | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | 2014 | | | | 2015 | | | | 2016 | | | | |
|---|-----------------|---|-----|---|------|---|---|-------|----------------|---|---|---|-----------|-------|---|---|---------|---|---|---|------|---|---|---|------|---|---|---|--|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | |
| Ground Mobile Radio Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Milestone C | | | | | | | | ▲ MSC | | | | | | | | | | | | | | | | | | | | | |
| IOC | | | | | | | | | | | | | | ▲ IOC | | | | | | | | | | | | | | | |
| FRP IPR | | | | | | | | | | | | | ▲ FRP IPR | | | | | | | | | | | | | | | | |
| Radio Development Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EDM Deliveries | EDM Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test & Evaluation Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Qualification Test (PQT) | PQT | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| System Integration Test (SIT) | | | SIT | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Limited User Test (LUT) | | | | | LUT | | | | | | | | | | | | | | | | | | | | | | | | |
| Preparation for Multi-Service Operational Test and Evaluation (MOT&E) | | | | | | | | | Prep for MOT&E | | | | | | | | | | | | | | | | | | | | |
| Multi-Service Operational Test and Evaluation (MOT&E) | | | | | | | | | | | | | | | | | ▲ MOT&E | | | | | | | | | | | | |
| System Upgrades | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| System Upgrades | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | System Upgrades | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604280N: <i>JT Tact Radio Sys (JTRS)</i> | PROJECT 3074: <i>GMR JTRS</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 3074 | | | | |
| EDM Deliveries | 1 | 2010 | 4 | 2010 |
| Production Qualification Test (PQT) | 1 | 2010 | 1 | 2011 |
| JTRS - Army GMR System Integration Test (SIT) | 3 | 2010 | 4 | 2010 |
| Limited User Test | 3 | 2011 | 3 | 2011 |
| JTRS GMR Milestone C | 4 | 2011 | 4 | 2011 |
| Preparation for Multi-Service Operational Test and Evaluation | 2 | 2012 | 4 | 2012 |
| JTRS - Multi-service Operational Test and Evaluation | 1 | 2013 | 1 | 2013 |
| IOC | 2 | 2013 | 2 | 2013 |
| FRP IPR | 2 | 2013 | 2 | 2013 |
| System Upgrades | 1 | 2013 | 4 | 2015 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604280N: <i>JT Tact Radio Sys (JTRS)</i> | PROJECT 3075: <i>HMS JTRS</i> |
|---|--|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|----------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 3075: <i>HMS JTRS</i> | 135.936 | 40.689 | 179.117 | - | 179.117 | 12.452 | 2.788 | 0.326 | - | 0.000 | 371.308 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

Note
In FY10-FY12, Project No. 3075 represents the total HMS JTRS RDT&E budget for those years.

In FY13-FY16, Program Element (PE) 0604280N represents the Navy share of the funding associated with HMS JTRS. As part of the JTRS joint program budget strategy, each Military Department (MILDEP) budgets for a portion of the total program. Thus in FY13-16 a portion of JTRS development is represented in this PE, in Army PE 0604280A, and in Air Force PE 0604280F.

A. Mission Description and Budget Item Justification

JTRS is the Department of Defense (DoD) family of common software-defined programmable radios that will form the foundation of information radio frequency transmission for Joint Vision 2020. The JTRS family of products will be multifunctional, multiband, multimode, network capable, capable of providing communications through a range of low probability of intercept, low probability of detection and anti-jam waveforms. JTRS products will provide transformational communication capabilities for the warfighter. JTRS is intended to support communications readiness and mission success, in the 2 Megahertz (MHz) to 2 Gigahertz (GHz) operating frequency range, by providing military commanders with the ability to command, control and communicate with their forces via secure voice/video/data media forms. JTRS products are hardware-configurable and software-programmable radio systems that provide increased interoperability, flexibility and adaptability to support varied mission requirements.

HMS provides the JTRS capability to meet Joint Ground Mounted, Dismounted & Embedded Radio Requirements. Increment 1, Phase 1 will develop Small-Form-Fit (SFF) SFF-A (1 and 2 Channel), SFF-D and AN/PRC-154 Rifleman Radio running Soldier Radio Waveform (SRW) for use in a sensitive but unclassified environment (Type 2). Increment 1, Phase 2 will develop the 2 Channel Manpack, SFF-B and 2 Channel Handheld. Phase 2 radios are all Type 1 compliant for use in a classified environment running Ultra High Frequency (UHF), Satellite Communications (SATCOM), High Frequency (HF), Enhanced Position Location and Reporting System (EPLRS), Soldier Radio Waveform (SRW), Mobile User Objective System (MUOS), and Single Channel Ground to Air Radio System (SINCGARS) waveforms.

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| Title: HMS JTRS | 135.936 | 40.689 | 179.117 |
| Articles: | 0 | 0 | 0 |
| FY 2010 Accomplishments: | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604280N: <i>JT Tact Radio Sys (JTRS)</i> | PROJECT 3075: <i>HMS JTRS</i> |
|---|--|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| <p>Completed AN/PRC-154 2 Watt Production Rifleman Radio Field Experiment (FE) and Final OE 5.0 Formal Qualification Test (FQT); Provided technical support for Phase 1 and Phase 2; Completed Phase 2 Engineering Development Model (EDM) manufacturing and started Phase 2 Contractor Development Test (CDT); Completed waveform integration on Phase 1 Radios.</p> <p>FY 2011 Plans: Complete Phase 1 and 2 Contractor Developmental Test (CDT); Complete the Government Developmental Test 2 (GDT2) for Phase 1 AN/PRC-154 Rifleman Radio; Achieve a Milestone C for Phase 1 Radios; Obtain Phase 1 Information Assurance certification; Provide technical support for Phase 1 and Phase 2; Complete Phase 2 GDT1 and Phase 2 Limited User Test (LUT); Obtain Phase 2 Information Assurance certification; Complete SFF-B CDT.</p> <p>FY 2012 Plans: Perform Phase 1 Initial Operational Test & Evaluation (IOT&E); Complete Phase 2 GDT2, GDT with Mobile User Objective System (MUOS) Regression Testing and Phase 2 Multi-Services Operational Test & Evaluation (MOTE); Achieve an IPR for Phase 2; Complete MUOS porting efforts; Initiate efforts for Shadow Integration and porting Very High Frequency/Ultra High Frequency Line-of-Sight (V/U LOS) with Air Traffic Control (ATC) and Over-The-Air-Rekeying/Over-The-Air-Zeroizing (OTAR/OTAZ); Initiate and complete enhancement capabilities on the SFF-B.</p> | | | |
| Accomplishments/Planned Programs Subtotals | 135.936 | 40.689 | 179.117 |

| C. Other Program Funding Summary (\$ in Millions) | | | | | | | | | | | |
|--|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|-------------------|
| Line Item | FY 2010 | FY 2011 | FY 2012 | FY 2012 | FY 2012 | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To | |
| | | | Base | OCO | Total | | | | | Complete | Total Cost |
| • RDTEA/0604280A: <i>HMS JTRS</i> | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 63.348 | 43.414 | 14.198 | 3.887 | Continuing | Continuing |
| • RDTEF/0604280F: <i>HMS JTRS</i> | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 12.610 | 2.805 | 0.333 | 0.000 | Continuing | Continuing |
| • RDTEA/0604805A: <i>JTRS Cluster 5 / HMS</i> | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 242.657 |
| • OPN/3057: <i>COMMUNICATION ITEMS UNDER \$5M</i> | 0.000 | 5.288 | 3.870 | 0.000 | 3.870 | 3.770 | 0.717 | 0.962 | 0.912 | Continuing | Continuing |
| • PMC/4633: <i>Radio Systems</i> | 0.000 | 0.498 | 8.131 | 0.000 | 8.131 | 10.472 | 12.849 | 13.629 | 13.858 | Continuing | Continuing |

D. Acquisition Strategy
 This project supports the JTRS HMS SDD efforts. The JTRS HMS Program began with the development of the HMS Radios following Milestone (MS) B approval on April 26, 2004. HMS uses an evolutionary acquisition strategy and will deliver NSA certified capabilities. Following full and open competition, a single Cost-Plus-Award Fee (CPAF) contract was awarded on July 16, 2004. The contract is structured to address Increment 1. JTRS HMS Increment 1 consists of two phases of development. Increment 1, Phase 1 will develop SFF-A (1 and 2 Channel), SFF-D and AN/PRC-154 Rifleman Radio running Soldier Radio Waveform (SRW) for use

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy DATE: February 2011

| APPROPRIATION/BUDGET ACTIVITY | R-1 ITEM NOMENCLATURE | PROJECT |
|---|--|-----------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | PE 0604280N: <i>JT Tact Radio Sys (JTRS)</i> | 3075: <i>HMS JTRS</i> |

in a sensitive but unclassified environment (Type 2). Increment 1, Phase 2 will develop the 2 Channel Manpack, SFF-B and 2 Channel Handheld which are all Type 1 compliant for use in a classified environment running Ultra High Frequency (UHF), Satellite Communications (SATCOM), High Frequency (HF), Enhanced Position Location and Reporting System (EPLRS), Soldier Radio Waveform (SRW), Mobile User Objective System (MUOS), and Single Channel Ground to Air Radio System (SINCGARS) waveforms. The FY12 budget supports the completion of Development, achievement of a Phase 2 In-Process Review (IPR), preparation and completion for the Operational Test for Phase 2, and approved capability enhancements to include the SFF-B, Very High Frequency/Ultra High Frequency Line-of-Sight (VHF/UHF LOS) with Air Traffic Control (ATC,) and Over-The-Air-Rekeying/Over-The-Air-Zeroizing (OTAR/OTAZ).

E. Performance Metrics

The five ACAT 1D JTRS programs are employing mature, software-defined radio technologies and developing more than 10 million lines of code as part of the Increment 1 baseline. Early on, a JTRS enterprise software metrics requirements effort established a baseline of standard software metrics which are monitored on each JTRS contract involving software development. Further, a software complexity product metric is collected which demonstrates the testability of the code and is an important criterion for software certification. These software metrics are used to quantify the quality and progress of each software product's development over time. Additionally, JTRS HMS employs Earned Value Metrics to monitor contract performance on the Prime Development Contract.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604280N: <i>JT Tact Radio Sys (JTRS)</i> | PROJECT 3075: <i>HMS JTRS</i> |
|---|--|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| JTRS HMS Design, Development and Manufacture of Engineering Development Models (EDMs) | C/CPAF | General Dynamics C4 Systems:Scottsdale, AZ | 393.641 | 2.998 | Oct 2010 | 111.689 | Oct 2011 | - | | 111.689 | 0.000 | 508.328 | |
| JTRS HMS Development System Engineering Support | MIPR | PEO C3T:Ft. Monmouth, NJ | 31.167 | - | | - | | - | | - | 0.000 | 31.167 | 31.167 |
| Technology Development efforts | MIPR | PEO C3T:Ft. Monmouth, NJ | 13.672 | - | | - | | - | | - | 0.000 | 13.672 | 13.672 |
| Subtotal | | | 438.480 | 2.998 | | 111.689 | | - | | 111.689 | 0.000 | 553.167 | |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|------------------------|--|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| JTRS Technical Support | MIPR | PEO C3T, ARL, CACI, GECOM, CERDEC, LCMC, DSCI:Ft. Monmouth, NJ; APG, MD; San Diego, CA | 21.305 | 11.987 | Oct 2010 | 16.680 | Oct 2011 | - | | 16.680 | 0.000 | 49.972 | |
| Subtotal | | | 21.305 | 11.987 | | 16.680 | | - | | 16.680 | 0.000 | 49.972 | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| JTRS EPG test bed and planning . | MIPR | EPG:Ft. Huachuca, AZ | 0.300 | - | | - | | - | | - | 0.000 | 0.300 | 0.300 |
| JTRS Modeling and Simulation. | MIPR | USAIC:Ft. Huachuca, AZ | 0.750 | 0.100 | Jul 2011 | 0.100 | Dec 2011 | - | | 0.100 | 0.000 | 0.950 | 0.950 |
| JTRS Test In-house Support & Government | MIPR | PEO C3T:Ft. Monmouth, NJ | 20.229 | 1.112 | Oct 2010 | 1.001 | Oct 2011 | - | | 1.001 | 0.000 | 22.342 | |
| | MIPR | | 11.925 | 6.075 | Jan 2011 | 4.565 | Oct 2011 | - | | 4.565 | 0.000 | 22.565 | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604280N: <i>JT Tact Radio Sys (JTRS)</i> | PROJECT 3075: <i>HMS JTRS</i> |
|---|--|---|

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|---|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Phase1 T&E (CDT, GDT, LUT, OT) | | PEO C3T:Ft. Monmouth, NJ | | | | | | | | | | | |
| Phase2 T&E (CDT, GDT, LUT, OT) | MIPR | PEO C3T:Ft. Monmouth, NJ/APG, MD | 6.000 | 12.135 | Dec 2010 | 22.235 | Oct 2011 | - | | 22.235 | 0.000 | 40.370 | |
| Enhanced Capabilities | MIPR | EPG, ATEC, AEC, MBL, ARLSLAD, CERDEC:Ft. Huachuca, AZ; Ft. Benning, GA; Ft. Monmouth, | - | - | | 9.848 | Oct 2011 | - | | 9.848 | 0.000 | 9.848 | |
| Subtotal | | | 39.204 | 19.422 | | 37.749 | | - | | 37.749 | 0.000 | 96.375 | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Project Management Office Support | MIPR | PEO C3T:Ft. Monmouth, NJ | 34.356 | 5.061 | Oct 2010 | 10.199 | Oct 2011 | - | | 10.199 | 0.000 | 49.616 | |
| JTRS Business/ Engineering Management | MIPR | PEO C3T:Ft. Monmouth, NJ | 13.113 | 1.221 | Oct 2010 | 2.800 | Oct 2011 | - | | 2.800 | 0.000 | 17.134 | |
| Acquisition Workforce Fund | C/FP | Not Specified:Not Specified | 0.634 | - | | - | | - | | - | 0.000 | 0.634 | 0.634 |
| Subtotal | | | 48.103 | 6.282 | | 12.999 | | - | | 12.999 | 0.000 | 67.384 | |

| | Total Prior Years Cost | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|------------------------|---------|--------------|-------------|---------------|------------------|------------|--------------------------|
| Project Cost Totals | | 547.092 | 40.689 | 179.117 | - | 179.117 | 0.000 | 766.898 |

Remarks
 PYs column only reflects prior year Navy HMS costs for FY07-10. Prior to FY07, HMS JTRS funding resided in Army PE 0604805A, Project 61A.
 In FY11 and FY12, Project No. 3075 represents the total HMS JTRS RDT&E budget.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604280N: <i>JT Tact Radio Sys (JTRS)</i> | PROJECT 3075: <i>HMS JTRS</i> |
|---|--|---|

| | Total Prior Years Cost | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|--|------------------------|---------|--------------|-------------|---------------|------------------|------------|--------------------------|
|--|------------------------|---------|--------------|-------------|---------------|------------------|------------|--------------------------|

In FY13-16 Project No. 3075 represents a portion of the total HMS JTRS RDT&E budget. As part of the JTRS joint program acquisition strategy, each MILDEP budgets for a portion of the total program. Thus, a portion of HMS is represented in this PE, in Army PE 0604280A, and in Air Force PE 0604280F.

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604280N: *JT Tact Radio Sys (JTRS)*

PROJECT

3075: *HMS JTRS*

| Project 3075 | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|----------------------------|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|
| | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| Increment 1, Phase 1 CDT | [Bar] | | | | [Bar] | | | | | | | | | | | | | | | | | | | | | | | |
| Increment 1, Phase 1 MS C | | | | | | | | | △ MS C | | | | | | | | | | | | | | | | | | | |
| Increment 1, Phase 1 GDT2 | | | | | | | | | □ GDT2 | | | | | | | | | | | | | | | | | | | |
| Increment 1, Phase 1 IOT&E | | | | | | | | | | | | | △ IOTE | | | | | | | | | | | | | | | |
| Increment 1, Phase 2 CDT | | | | | [Bar] | | | | [Bar] | | | | | | | | | | | | | | | | | | | |
| Increment 1, Phase 2 GDT1 | | | | | | | | | □ GDT1 | | | | | | | | | | | | | | | | | | | |
| Increment 1, Phase 2 LUT | | | | | | | | | [Bar] | | | | | | | | | | | | | | | | | | | |
| Increment 1, Phase 2 GDT2 | | | | | | | | | △ GDT2 | | | | | | | | | | | | | | | | | | | |
| Increment 1, Phase 2 IPR | | | | | | | | | | | | | △ IPR | | | | | | | | | | | | | | | |
| Increment 1, Phase 2 MOTE | | | | | | | | | | | | | △ MOTE | | | | | | | | | | | | | | | |
| Increment 1 Enhancements | | | | | | | | | | | | | [Bar] | | | | | | | | | | | | | | | |

UNCLASSIFIED

| | | |
|---|--|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604280N: <i>JT Tact Radio Sys (JTRS)</i> | PROJECT 3075: <i>HMS JTRS</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|----------------------------|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 3075 | | | | |
| Increment 1, Phase 1 CDT | 1 | 2010 | 2 | 2011 |
| Increment 1, Phase 1 MS C | 4 | 2011 | 4 | 2011 |
| Increment 1, Phase 1 GDT2 | 4 | 2011 | 4 | 2011 |
| Increment 1, Phase 1 IOT&E | 3 | 2012 | 3 | 2012 |
| Increment 1, Phase 2 CDT | 4 | 2010 | 3 | 2011 |
| Increment 1, Phase 2 GDT1 | 3 | 2011 | 3 | 2011 |
| Increment 1, Phase 2 LUT | 3 | 2011 | 3 | 2011 |
| Increment 1, Phase 2 GDT2 | 1 | 2012 | 1 | 2012 |
| Increment 1, Phase 2 IPR | 2 | 2012 | 2 | 2012 |
| Increment 1, Phase 2 MOTE | 3 | 2012 | 3 | 2012 |
| Increment 1 Enhancements | 1 | 2012 | 4 | 2014 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604280N: <i>JT Tact Radio Sys (JTRS)</i> | PROJECT 3076: <i>JTRS Network Enterprise Domain (JNED)</i> |
|---|--|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 3076: <i>JTRS Network Enterprise Domain (JNED)</i> | 198.139 | 117.574 | 94.189 | - | 94.189 | 32.235 | 20.638 | 18.551 | 15.730 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

Note

In FY10-FY12, Project No. 3076 represents the total JNED RDT&E budget.

In FY13-FY16, Program Element (PE) 0604280N represents the Navy share of the funding associated with JNED. As part of the JTRS joint program budget strategy, each Military Department (MILDEP) budgets for a portion of the total program. Thus in FY13-16 a portion of JTRS development is represented in this PE, in Army PE 0604280A, and in Air Force PE 0604280F.

A. Mission Description and Budget Item Justification

JTRS is the Department of Defense (DoD) family of common software-defined programmable radios that will form the foundation of information radio frequency transmission for Joint Vision 2020. The JTRS family of products will be multifunctional, multiband, multimode, network capable, capable of providing communications through a range of low probability of intercept, low probability of detection and anti-jam waveforms. JTRS products will provide transformational communication capabilities for the warfighter. JTRS is intended to support communications readiness and mission success, in the 2 Megahertz (MHz) to 2 Gigahertz (GHz) operating frequency range, by providing military commanders with the ability to command, control and communicate with their forces via secure voice/video/data media forms. JTRS products are hardware-configurable and software-programmable radio systems that provide increased interoperability, flexibility and adaptability to support varied mission requirements.

(JNED) JNED is responsible for the development and delivery of software-defined, legacy radio waveforms and networking waveforms that support Net-Centric operational warfare at sea, air and on the ground. Networking waveforms extend the Global Information Grid (GIG) to the last tactical mile and to the warfighter. The JNED team is responsible for (1) the overall management and oversight of the JTRS Waveform program, (2) development, validation, and evolution of a common JTRS Software Communications Architecture (SCA), (3) development and evolution of waveform software applications, (4) development of software cryptographic algorithms and equipment applications, (5) testing and certification of JTRS waveforms, network services, network management, and software products, and (6) JTRS networking and network management software components. Services are responsible for acquiring and fielding host radio hardware and integrating JTRS into Service platforms.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|--|---------|---------|---------|
| Title: Wideband Networking Waveform (WNW) | 8.570 | 6.970 | - |
| Articles: | 0 | 0 | |
| Description: - Wideband Networking Waveform (WNW) is a high data rate networking waveform application that provides the lower tactical Internet backbone and connects tactical forces across the battle sphere. WNW will feature two signals-in-space | | | |

UNCLASSIFIED

| | | | | |
|--|--|--|----------------|----------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604280N: <i>JT Tact Radio Sys (JTRS)</i> | PROJECT 3076: <i>JTRS Network Enterprise Domain (JNED)</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| <p>(SiS), which are the Orthogonal Frequency Division Multiplexing (OFDM) and Anti-Jam (AJ). WNW will provide high throughput, dynamically adaptable connectivity for the exchange of Internet Protocol (IP) based voice, data, and video traffic. WNW will support network nodes on mobile, airborne, and maritime platforms. WNW includes networking services, security, High Assurance IP Equipment (HAiPE) capabilities, red-black switching, and internal routing of other WNW signals. Platforms include: GMR and AMF.</p> <p>FY 2010 Accomplishments: Completed development and performed FQT for WNW v4.0 in 1QFY10. Provided post FQT support to platforms during WNW porting activities. Began Software In Service Support for the WNW waveform.</p> <p>FY 2011 Plans: Continue Software In Service Support for the WNW waveform.</p> | | | | |
| <p>Title: Soldier Radio Waveform (SRW)</p> <p>Articles:</p> <p>Description: Soldier Radio Waveform (SRW) will operate on JTR sets to provide a networked battlefield communications capability for disadvantaged users engaged in land combat operations and will support voice, data, and video communications on and over the immediate battlefield. These forces include vehicles, rotary wing, dismounted soldiers, munitions, sensors, and unmanned air vehicles (UAV). Functional software applications will use SRW enabled JTR sets over IP capable networks and sub-networks. SRW will be interoperable with higher throughput, IP-based network waveforms, such as WNW. As applicable, these IP-based networking waveforms will enable information exchanges through the GIG to the soldier and provide entirely new capabilities for battlefield communications and information sharing. Platforms include: GMR, AMF and HMS.</p> <p>FY 2010 Accomplishments: Completed integration of v1.0c into HMS and conducted Delta-FQT in Q1 FY10. Provided post FQT support to platforms during SRW v1.0c porting activities. Began Software In Service Support for the SRW waveform.</p> <p>FY 2011 Plans: Continue Software In Service Support for the SRW waveform.</p> | | 4.438 0 | 1.076 0 | - |
| <p>Title: Mobile User Objective System (MUOS)</p> <p>Articles:</p> <p>Description: Mobile User Objective System (MUOS) will enable MUOS satellites to provide worldwide communication satellite coverage for DoD requirements. MUOS will provide functionality comparable to commercial mobile phone systems. MUOS offers secure streaming video, netted communications, and voice/data in real time to provide essential connectivity. JNED program will</p> | | 57.864 0 | 30.122 0 | 6.500 0 |

UNCLASSIFIED

| | | | | |
|--|--|--|----------------|----------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604280N: <i>JT Tact Radio Sys (JTRS)</i> | PROJECT 3076: <i>JTRS Network Enterprise Domain (JNED)</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| <p>modify this waveform, making it compatible and certifiable to meet DoD security requirements plus enable porting to JTR sets. Platforms include: HMS and AMF.</p> <p>FY 2010 Accomplishments: Continued development of MUOS v3.1.</p> <p>FY 2011 Plans: Complete development and perform FQT of MUOS v3.1 in 4Q FY11. Begin Software In Service Support for the MUOS waveform.</p> <p>FY 2012 Plans: Continue Software In Service Support for the MUOS waveform.</p> | | | | |
| <p>Title: Joint Airborne Networking -Tactical Edge (JAN-TE)</p> <p align="right">Articles:</p> <p>Description: Joint Airborne Networking - Tactical Edge (JAN-TE) will operate on JTR airborne sets to provide a networked tactical communications capability for tactical aircraft. JAN-TE will provide increased throughput, highly responsive connectivity, and ad hoc mobile networking for fighters engaged in air operations. This networking waveform is uniquely designed and engineered for highly maneuverable, fast moving aircraft for rapidly establishing networks to share high value data communications. USD(AT&L) directed that the development of the JAN-TE waveform be discontinued after Critical Design Review in October 2008, but allowed the Navy and/or Air Force to continue funding its development independently, if desired. The Navy has budgeted funding for continuation of JAN-TE's development beginning in FY2012.</p> <p>FY 2012 Plans: Continue development of the JAN-TE waveform.</p> | | - | - | 2.700 0 |
| <p>Title: Network Enterprise Services (NES)</p> <p align="right">Articles:</p> <p>Description: Network Enterprise Services (NES): Includes development and acquisition of JTRS Network Enterprise Services (JNES) to include JTRS WNW Network Manager (JWNM), JTRS Enterprise Network Manager (JENM), Soldier Radio Waveform Network Manager (SRWNM), and Enterprise Network Services (ENS). Provide JNED technical support, including waveform development, systems engineering, spectrum allocation, system security engineering, problem resolution and support of Software Communications Architecture (SCA) activities.</p> <p>FY 2010 Accomplishments:</p> | | 72.476 0 | 39.103 0 | 41.702 0 |

UNCLASSIFIED

| | |
|--|----------------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | DATE: February 2011 |
|--|----------------------------|

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604280N: <i>JT Tact Radio Sys (JTRS)</i> | PROJECT 3076: <i>JTRS Network Enterprise Domain (JNED)</i> |
|---|--|--|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|---|----------------|----------------|----------------|
|---|----------------|----------------|----------------|

| | | | |
|---|--|--|--|
| <p>Completed development and performed FQT for SRWNM 1.0R in 2Q FY10. Continued development for ENS Phase 1 (SoftINC and TDC). Began Software In Service Support for Network Managers.</p> <p><i>FY 2011 Plans:</i> Complete development and perform FQT for JENM Phase 1 in 2Q FY11 and begin JENM Phase 2 (MUOS) enhancement effort. Complete development and perform FQT for SRWNM 1.0.2. in 2Q FY11. Complete development and perform FQT for ENS Phase 1 SoftINC in 3Q FY11 and ENS Phase 1 TDC in 3Q FY11. Begin Software In Service Support for Network Services. Continue Software In Service Support for Network Managers.</p> <p><i>FY 2012 Plans:</i> Continue to provide JNED technical support, including waveform development, systems engineering, spectrum allocation, system security engineering, problem resolution and support of Software Communications Architecture (SCA) activities. Complete development and perform FQT for JENM Phase 2 (MUOS) in 1Q FY12 and JENM Phase 2 (Final) in 2Q FY12. Continue Software In Service Support for Network Services. Continue Software In Service Support for Network Managers.</p> | | | |
|---|--|--|--|

| | | | |
|---|--------|--------|--------|
| <i>Title:</i> Legacy Radio Waveforms | 54.791 | 40.303 | 43.287 |
| <i>Articles:</i> | 0 | 0 | 0 |

| | | | |
|--|--|--|--|
| <p><i>Description:</i> Legacy Radio Waveforms: Includes the development and acquisition of legacy software and other related activities to support the legacy waveform development.</p> <p><i>FY 2010 Accomplishments:</i> Continued to support waveform integration test and evaluation to include hardware and software waveform certification process (SCA compliance testing) to meet program requirements. Completed development and performed FQT for HF v4.0 in 1Q FY10. Completed development and performed FQT for UHF SATCOM v4.1 in 1Q FY10. Continued JNED program management office support. Continued to provide post FQT support to platforms during Legacy Waveform porting activities. Continued Software In Service Support for Legacy waveforms.</p> <p><i>FY 2011 Plans:</i> Continue to support waveform integration, test and evaluation to include hardware and Software Waveform Certification Process (SCA compliance testing) to meet program requirements. Continue JNED program management office support. Continue Software In Service Support for Legacy waveforms.</p> <p><i>FY 2012 Plans:</i></p> | | | |
|--|--|--|--|

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604280N: <i>JT Tact Radio Sys (JTRS)</i> | PROJECT 3076: <i>JTRS Network Enterprise Domain (JNED)</i> |
|---|--|--|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|--|---------|---------|---------|
| Continue to support waveform integration, test and evaluation to include hardware and Software Waveform Certification Process (SCA compliance testing) to meet program requirements. Continue JNED program management office support. Continue Software In Service Support for Legacy waveforms. | | | |
| Accomplishments/Planned Programs Subtotals | 198.139 | 117.574 | 94.189 |

C. Other Program Funding Summary (\$ in Millions)

| Line Item | FY 2010 | FY 2011 | FY 2012 | | | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To | |
|--|---------|---------|---------|-------|--------|---------|---------|---------|---------|------------|------------|
| | | | Base | OCO | Total | | | | | Complete | Total Cost |
| • RDTEA/0604280A: <i>JNED</i> | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 34.944 | 23.777 | 20.115 | 21.531 | Continuing | Continuing |
| • RDTEF/0604280F: <i>JNED</i> | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 30.931 | 22.468 | 19.946 | 22.421 | Continuing | Continuing |
| • O&M, 4A6M: <i>Service Wide Communications (JNED)</i> | 6.650 | 40.397 | 49.600 | 0.000 | 49.600 | 0.000 | 0.000 | 0.000 | 0.000 | Continuing | Continuing |

D. Acquisition Strategy

(JNED) JNED, formerly Joint Waveforms Program Office, is responsible for common core activities including developing and evolving the software-defined legacy and networking waveforms that operate on multiple hardware sets and in all operational environments that support network-centric operational warfare, as well as common networking services solutions. Waveform developments will be procured through full and open contract competitions, except when special circumstances support sole source acquisition. The JNED program is developing waveforms and Cryptographic Equipment applications (CEAs) for use within the JTRS community. The module developer will develop CEAs. The FY12 Budget supports continued development of waveforms, supporting software, and testing support, as well as the National Security Agency (NSA) evaluation of software crypto libraries.

E. Performance Metrics

The five ACAT 1D JTRS programs are employing mature, software-defined radio technologies and developing more than 10 million lines of code as part of the Increment 1 baseline. Early on, a JTRS enterprise software metrics requirements effort established a baseline of standard software metrics which are monitored on each JTRS contract involving software development. Example metrics are: the number of requirements and the number of use cases required for design are estimated during the requirement and design phase and analyzed for trend-actual vs. scheduled; the software lines of code (SLOC) counts are used to determine progress during the coding phase; and the execution of test cases as well as trouble reports are monitored during the integration and test phase. Further, a software complexity product metric is collected which demonstrates the testability of the code and is an important criterion for software certification. These software metrics are used to quantify the quality and progress of each software product's development over time. Additionally, JNED employs Earned Value Metrics to monitor contract performance on its Prime Development Contracts.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604280N: <i>JT Tact Radio Sys (JTRS)</i> | PROJECT 3076: <i>JTRS Network Enterprise Domain (JNED)</i> |
|---|--|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|--|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Architecture Development and Validation, Evolve and Provide CM Mgmt of SCA | WR | Johns Hopkins:Laurel, MD | 2.050 | 0.300 | Dec 2010 | 0.418 | Dec 2011 | - | | 0.418 | Continuing | Continuing | Continuing |
| Wideband Networking Waveform (WNW) | C/CPAF | BOEING:Huntington Beach, CA | 104.094 | - | | - | | - | | - | 0.000 | 104.094 | 104.094 |
| Soldier Radio Waveform (SRW) | C/CPIF | ITT:Clifton, NJ | 89.395 | 1.076 | Dec 2010 | - | | - | | - | 0.000 | 90.471 | 90.472 |
| Mobile User Objective System (MUOS) | C/CPIF | Lockheed Martin:Sunnyvale, CA | 93.820 | 30.122 | Jan 2011 | 6.500 | Dec 2011 | - | | 6.500 | 0.000 | 130.442 | 130.442 |
| Joint Airborne Networking - Tactical Edge (JAN-TE) | C/CPFF | Rockwell Collins:Cedar Rapids, IA | 37.310 | - | | 2.700 | Dec 2011 | - | | 2.700 | Continuing | Continuing | Continuing |
| Legacy Software-Defined Radio Waveforms | Various | Various:Various | 46.515 | 2.600 | Dec 2010 | 1.246 | Dec 2011 | - | | 1.246 | Continuing | Continuing | Continuing |
| Network Enterprise Services Development | Various | BOEING:Huntington Beach | 203.717 | 11.679 | Dec 2010 | 34.266 | Dec 2011 | - | | 34.266 | Continuing | Continuing | Continuing |
| Network Enterprise Services Development | Various | ITT:Clifton, NH | 49.487 | 15.700 | Dec 2010 | - | | - | | - | 0.000 | 65.187 | 65.187 |
| Network Enterprise Services Development | Various | RCI:Cedar Rapids, IA | 15.046 | 11.423 | Dec 2010 | 7.018 | Dec 2011 | - | | 7.018 | 0.000 | 33.487 | 33.488 |
| Post FQT / Software Sustainment | Various | ITT:Clifton, NJ | 1.500 | 1.359 | Dec 2010 | 7.890 | Dec 2011 | - | | 7.890 | 0.000 | 10.749 | 10.749 |
| Post FQT / Software Sustainment | Various | Raytheon:Waltham, MA | - | - | Dec 2010 | - | Dec 2011 | - | | - | 0.000 | 0.000 | 0.817 |
| Post FQT / Software Sustainment | Various | RCI:Cedar Rapids, IA | 1.012 | 0.678 | Dec 2010 | 4.134 | Dec 2011 | - | | 4.134 | 0.000 | 5.824 | 5.824 |
| Post FQT / Software Sustainment | Various | LANT:Charleston, SC | 2.043 | 1.175 | Dec 2010 | 1.175 | Dec 2011 | - | | 1.175 | 0.000 | 4.393 | 4.805 |
| Post FQT / Software Sustainment | Various | TBD:TBD | 1.248 | 4.196 | Mar 2011 | 4.193 | Dec 2011 | - | | 4.193 | Continuing | Continuing | Continuing |
| Certification (Interim SCA Compliance Testing) | MIPR | NSA:Ft. Meade, MD | 13.004 | 3.000 | Nov 2011 | 1.266 | Dec 2011 | - | | 1.266 | Continuing | Continuing | Continuing |
| Subtotal | | | 660.241 | 83.308 | | 70.806 | | - | | 70.806 | | | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604280N: <i>JT Tact Radio Sys (JTRS)</i> | PROJECT 3076: <i>JTRS Network Enterprise Domain (JNED)</i> |
|---|--|--|

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | | |
|---------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|--|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract | |
| FFRDC - MITRE Technical Support | MIPR | MITRE:Ft. Monmouth, NJ | 9.981 | 0.516 | Dec 2010 | - | | - | | - | Continuing | Continuing | Continuing | |
| Subtotal | | | 9.981 | 0.516 | | - | | - | | - | | | | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|--|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract | |
| Program Management Support | Various | SRA / SSC PAC / SSC LANT:San Diego, CA / San Diego, CA / Charleston, SC | 198.447 | 33.750 | Dec 2010 | 23.383 | Dec 2011 | - | | 23.383 | Continuing | Continuing | Continuing | |
| Acquisition Workforce Fund | C/FP | Not Specified:Not Specified | 1.030 | - | | - | | - | | - | 0.000 | 1.030 | Continuing | |
| Subtotal | | | 199.477 | 33.750 | | 23.383 | | - | | 23.383 | | | | |

| | Total Prior Years Cost | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|-------------------------------|----------------|---------|---------------------|--------|--------------------|--|----------------------|-------------------------|-------------------|---------------------------------|
| Project Cost Totals | | 869.699 | 117.574 | | 94.189 | - | | 94.189 | | | |

Remarks
 Remarks: PYs column only reflects prior year Navy JNED costs for FY07-10. Prior to FY07, funding for JNED resided in Army PE 0604280A, Project 162. In FY11 & FY12, Project No. 3076 represents the total JNED RDT&E budget. In FY13-FY16, Project No. 3076 represents a portion of the total JNED RDT&E budget. As part of the JTRS joint program acquisition strategy, each MILDEP budgets for a portion of the total program. Thus, some of JNED is represented in this PE, in Army PE 0604280A, and in Air Force PE 0604280F. Software Sustainment funds to be transferred from RDT&E to O&M,N in fiscal year of execution as part of the JTRS joint program acquisition strategy.

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604280N: <i>JT Tact Radio Sys (JTRS)</i> | PROJECT 3076: <i>JTRS Network Enterprise Domain (JNED)</i> |
|---|--|--|

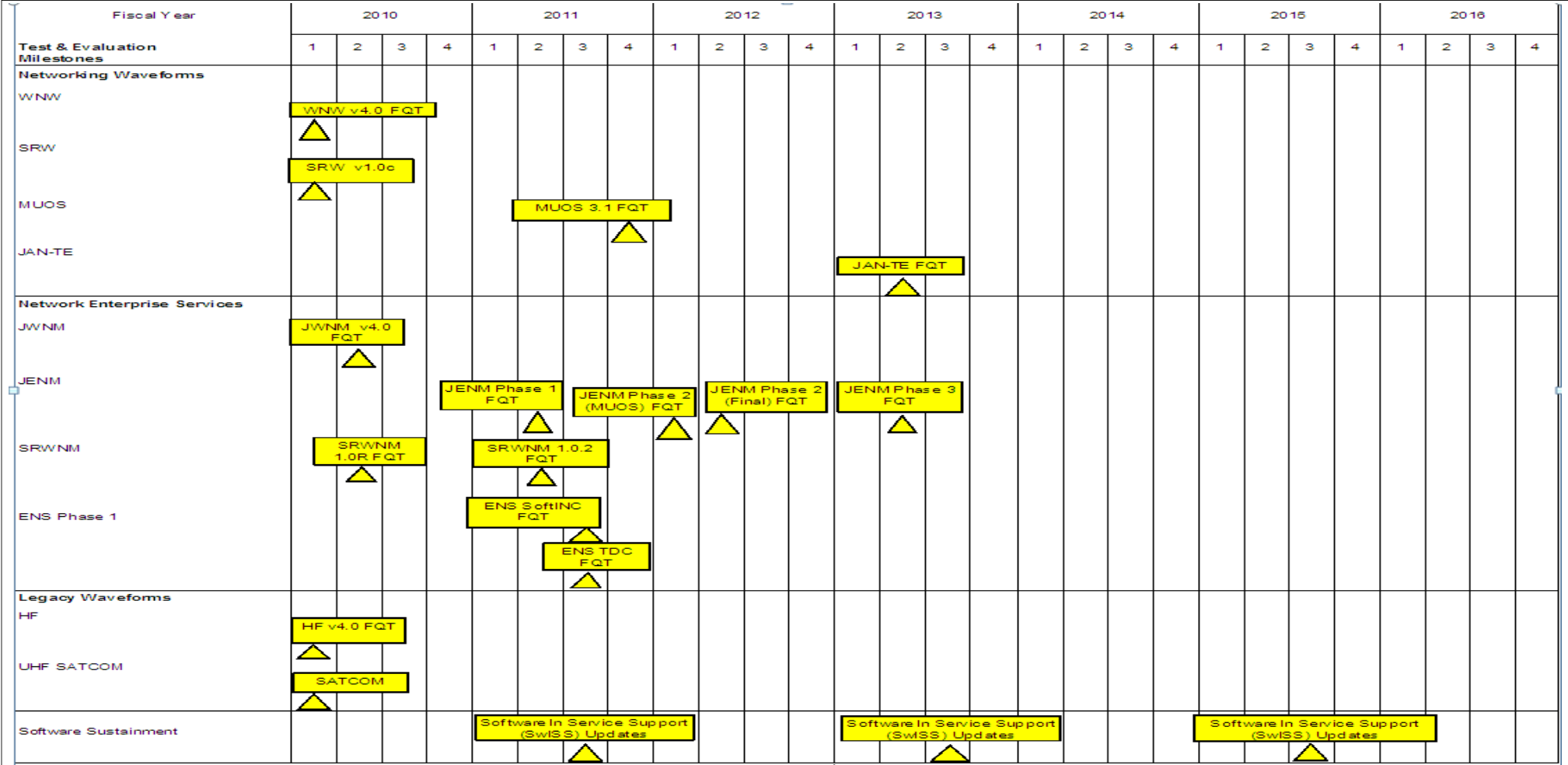


Exhibit R-4, Schedule Profile

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604280N: <i>JT Tact Radio Sys (JTRS)</i> | PROJECT 3076: <i>JTRS Network Enterprise Domain (JNED)</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 3076 | | | | |
| WNW v 4.0 | 1 | 2010 | 1 | 2010 |
| SRW v1.0c Delta for HMS | 1 | 2010 | 1 | 2010 |
| MUOS 3.1 | 4 | 2011 | 4 | 2011 |
| JAN-TE | 2 | 2013 | 2 | 2013 |
| JWNM v 4.0 | 2 | 2010 | 2 | 2010 |
| JENM Phase I | 2 | 2011 | 2 | 2011 |
| JENM Phase II (MUOS) | 1 | 2012 | 1 | 2012 |
| JENM Phase II (Final) | 2 | 2012 | 2 | 2012 |
| JENM Phase III | 2 | 2013 | 2 | 2013 |
| SRWNM 1.0R | 2 | 2010 | 2 | 2010 |
| SRWNM 1.0.2 | 2 | 2011 | 2 | 2011 |
| ENS Phase 1 SoftINC | 3 | 2011 | 3 | 2011 |
| ENS Phase 1 TDC | 3 | 2011 | 3 | 2011 |
| HF v4.0 | 1 | 2010 | 1 | 2010 |
| UHF SATCOM v4.1 | 1 | 2010 | 1 | 2010 |
| Software In Service Support (SwISS) Update I | 3 | 2011 | 3 | 2011 |
| Software In Service Support (SwISS) Update II | 3 | 2013 | 3 | 2013 |
| Software In Service Support (SwISS) Update III | 3 | 2015 | 3 | 2015 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604280N: <i>JT Tact Radio Sys (JTRS)</i> | PROJECT 3078: <i>Digital Modular Radio</i> |
|---|--|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|------------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 3078: <i>Digital Modular Radio</i> | - | - | 4.500 | - | 4.500 | 4.327 | - | - | - | 0.000 | 8.827 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

Note

Digital Modular Radio previously funded under Project 3073.

A. Mission Description and Budget Item Justification

The Digital Modular Radio (DMR), AN/USC-61(C), is the first software defined radio to have become a communications system standard for the U.S. Military. The compact, multi-channel DMR provides multiple waveforms and multi-level information security for voice and data communications. Digital Modular Radios currently operate aboard U.S. Navy surface and subsurface vessels, fixed-sites and other Department of Defense communication platforms using frequencies ranging from 2 MHz to 2 GHz. Certified to pass secure voice and data at Multiple Independent Levels of Security (MILS) over HF, VHF, UHF, and SATCOM channels, the DMR system was developed to the U.S. Navy's specifications and meets all the stringent environmental, EMI and performance requirements for use in the U.S. Fleet. This task is to develop Integrated Waveform (IW) capability for the Digital Modular Radio (DMR) in accordance with Military Standards 188-181,2,3. IW uses a TDMA communication system in an attempt to improve satellite bandwidth utilization over legacy SATCOM waveforms. This enables demand assigned services on UHF SATCOM networks to support new applications that require better performance and higher channel throughput.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| Title: DMR | - | - | 4.500 |
| Articles: | | | 0 |
| FY 2012 Plans: FY12 funding is for DMR Integrated Waveform (IW) capability development of software version 6.5.1. | | | |
| Accomplishments/Planned Programs Subtotals | - | - | 4.500 |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

As per DMR's Acquisition Strategy / Acquisition Plan, Section 1.2:
The evolutionary acquisition strategy for the DMR program commenced in November 1996 with a Sources Sought Synopses being released in the Commerce Business Daily (CBD) that resulted in the Government receiving responses from industry indicating that sufficient technology and competition existed to satisfy the U.S. Navy's requirements.

UNCLASSIFIED

| | |
|--|----------------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | DATE: February 2011 |
|--|----------------------------|

| APPROPRIATION/BUDGET ACTIVITY | R-1 ITEM NOMENCLATURE | PROJECT |
|---|--|------------------------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | PE 0604280N: <i>JT Tact Radio Sys (JTRS)</i> | 3078: <i>Digital Modular Radio</i> |

After the evaluation of industry proposals by the Space and Naval Warfare Systems Command (SPAWAR) Technical Evaluation Board (TEB), two multiple award FFP/IDIQ contracts were awarded. One contract was awarded to Raytheon E-Systems Incorporated and the other to Motorola Wireless Information Transfer Systems (now General Dynamics C4 Systems (GDC4S)).

Two delivery orders, one to each vendor, were issued to deliver four Service Test Models (STMs) from each vendor. The vendor with the superior design, to be determined after down select testing, would be issued an order for production DMRs. Extensive Government laboratory Developmental Testing (DT) was conducted on the STMs to determine which vendor proposed the superior DMR product. The Government concluded that, based on the results from the DT, the Motorola DMR was the best value for the Navy and an order for LRIP I DMR production quantities was issued to Motorola.

Due to the fact that GDC4S owns the technical data rights to the DMR, they are the only contractor with the unique capabilities and technical knowhow to perform the required IW upgrade work. This scope will be issued to GDC4S as an option under the sole source contract, N00039-10-C-0069, as authorized by SPAWAR J&A No. 16,351, signed 5 January 2010 by the Assistant Secretary of the Navy (ASN), Research, Development and Acquisition (RD&A).

E. Performance Metrics

The dollar threshold for Earned Value Management (EVM) has not been reached. Therefore, contractor performance will be managed through monthly program review meetings and contract milestones.

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604280N: <i>JT Tact Radio Sys (JTRS)</i> | PROJECT 3078: <i>Digital Modular Radio</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|-------------------------|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 3078 | | | | |
| IW SW 6.5.1 Development | 1 | 2012 | 3 | 2014 |
| ITU 6.5.1 JTIC Cert | 3 | 2014 | 4 | 2014 |
| ITU 6.5.1 NSA Cert | 2 | 2014 | 3 | 2014 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604280N: <i>JT Tact Radio Sys (JTRS)</i> | PROJECT 9999: <i>Congressional Adds</i> |
|---|--|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 9999: <i>Congressional Adds</i> | 3.585 | - | - | - | - | - | - | - | - | 0.000 | 3.585 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

(HMS) HMS provides the JTRS capability to meet Joint Ground Mounted, Dismounted & Embedded Radio Requirements. Increment 1, Phase 1 developed SFF-A (1 and 2 Channel), SFF-D, and AN/PRC-154 running Soldier Radio Waveform (SRW) for use in a sensitive but unclassified environment (Type 2). Increment 1, Phase 2 developed the 2 Channel Manpack, SFF-B, SFF-J, and 2 Channel Handheld. Phase 2 radios are all Type 1 compliant for use in a classified environment running Ultra High Frequency (UHF), Satellite Communications (SATCOM), High Frequency (HF), Enhanced Position Location and Reporting System (EPLRS), Soldier Radio Waveform (SRW), Mobile User Objective System (MUOS), and Single Channel Ground to Air Radio System (SINCGARS) waveforms.

B. Accomplishments/Planned Programs (\$ in Millions)

| | FY 2010 | FY 2011 |
|---|---------|---------|
| Congressional Add: JTRS Handheld Small Form Radio Sys | 3.585 | - |
| FY 2010 Accomplishments: Conducted study to determine the technical feasibility of adding the wide-band networking waveform to HMS products. | | |
| Congressional Adds Subtotals | 3.585 | - |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

Not required for congressional adds.

E. Performance Metrics

Not required for congressional adds.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | | | | R-1 ITEM NOMENCLATURE | | | | | | | |
|---|----------------|----------------|---------------------|--|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | PE 0604307N: <i>Surface Combatant Cmbt Sys Eng</i> | | | | | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| Total Program Element | 177.109 | 193.933 | 223.283 | - | 223.283 | 224.116 | 371.311 | 341.508 | 381.221 | Continuing | Continuing |
| 1447: <i>Surf Combatant Combat System Imp</i> | 171.533 | 193.933 | 223.283 | - | 223.283 | 224.116 | 371.311 | 341.508 | 381.221 | Continuing | Continuing |
| 9999: <i>Congressional Adds</i> | 5.576 | - | - | - | - | - | - | - | - | 0.000 | 5.576 |

A. Mission Description and Budget Item Justification

This project provides Cruiser and Destroyer Aegis Combat System (ACS) upgrades and integrates new equipment and systems to pace the threat and capture advances in technology. Examples of captured advanced technologies are: fiber optics, distributed architecture, and high performance computing, all of which require corresponding Aegis Weapon System (AWS) and ACS changes.

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 183.275 | 193.933 | 212.064 | - | 212.064 |
| Current President's Budget | 177.109 | 193.933 | 223.283 | - | 223.283 |
| Total Adjustments | -6.166 | - | 11.219 | - | 11.219 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | 0.784 | - | | | |
| • SBIR/STTR Transfer | -6.185 | - | | | |
| • Program Adjustments | - | - | 13.840 | - | 13.840 |
| • Section 219 Reprogramming | -0.753 | - | - | - | - |
| • Rate/Misc Adjustments | - | - | -2.621 | - | -2.621 |
| • Congressional General Reductions Adjustments | -0.012 | - | - | - | - |

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 9999: *Congressional Adds*

Congressional Add: *Advanced Capability Build 12 and 14*

Congressional Add: *Aegis Research and Development*

| | FY 2010 | FY 2011 |
|--|----------------|----------------|
| | 1.593 | - |
| | 3.983 | - |
| | 5.576 | - |

UNCLASSIFIED

| | |
|---|----------------------------|
| Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy | DATE: February 2011 |
|---|----------------------------|

| | |
|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604307N: <i>Surface Combatant Cmbt Sys Eng</i> |
|---|--|

| <u>Congressional Add Details (\$ in Millions, and Includes General Reductions)</u> | FY 2010 | FY 2011 |
|--|---------|---------|
| Congressional Add Subtotals for Project: 9999 | | |
| Congressional Add Totals for all Projects | 5.576 | - |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604307N: <i>Surface Combatant Cmbt Sys Eng</i> | PROJECT 1447: <i>Surf Combatant Combat System Imp</i> |
|---|--|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 1447: <i>Surf Combatant Combat System Imp</i> | 171.533 | 193.933 | 223.283 | - | 223.283 | 224.116 | 371.311 | 341.508 | 381.221 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

This project provides Cruiser & Destroyer ACS upgrades and integrates new equipment and systems to pace the threat and capture advances in technology. Examples of captured advanced technologies are: fiber optics, distributed architecture, and high performance computing, all of which require corresponding AWS and ACS changes. The ACS capabilities have continually evolved. Baseline (B/L) 2 (CG 52-58) introduced the VLS, Tomahawk Weapon System, and ASW upgrades. B/L 3 (CG 59-64) introduced the AN/SPY-1B Radar, AN/UYQ-21 consoles, and AN/UYK-43 computers. B/L 4 (CG 65-73) introduced the production of AN/UYK-43/44 computers with superset computer programs developed for the DDG 51. B/L 5 was introduced in FY1992 DDGs and included the JTIDS, TADIL-16, C2P, Combat Direction Finding, Tactical Data Information Exchange System, AN/SLQ-32 (V)3 Active Electronic Counter Countermeasures, and Aegis ER Missile. B/L 5 was developed in two steps (Phase 1 and Phase 3): Phase 1 integrated AEGIS ER and supported the MIOC; Phase 3 integrated system upgrades including Defensive Electronic Attack, Track Load Control Algorithms, and Track Initiation Processor (integrated on B/L 5 Phase 3, DDGs 68+); JTIDS and the OJ-663 color display Tactical Graphics capability into the ACS. B/L 5 Phase 3 is now resident on baseline 3 and 4 CGs and DDG 51-78. B/L 6 Phase 1 introduced COTS, FDDI, LAN, UYQ-70 consoles, CEC for CGs, and an adjunct COTS computer for ADS. It supported OPEVAL of CEC in CGs 66 and 69 and was introduced in the DDG 51 class beginning with DDG 79. B/L 6 Phase 1 is now resident on CGs 59, 65, 66, 68, 69, and 71. B/L 6 Phase 3 was introduced on DDGs 85-90 and was back-fitted onto DDGs 79-84. B/L 6 Phase 3 upgrades included embarked helicopters, FODMS, implementation of affordability initiatives, adjunct computers for all AWS elements, CEC for DDGs and BFTT, ADS, ESSM ID upgrades Phase 1, ATWCS Phase II, Fire Control System Upgrades, and JMCIS. B/L 7 Phase 1 is installed in the DDG 51 class beginning with DDG 91-102. Major B/L 7 upgrades include but are not limited to introduction and integration of new radar (AN/SPY-1D(V) upgrade), replacement of all UYK-43 and adjunct computers with a COTS-based advanced computing infrastructure, AN/SQQ-89(V)15, and the Remote Mine Hunting System. B/L 7P1R (DDG 103-112) upgraded the computing infrastructure, CIWS, Air Control, and introduced OA developed products into the baseline.

The Modernization Baselines will provide new technology to replace aging military equipment, extend service life, and maintain viability of the Aegis combatant into the future. These baselines should reduce the life cycle costs to maintain combat systems and streamline the development of capabilities. ACB08/TI08 (Cruiser Modernization) consists of an upgraded computing infrastructure and computer program enhancements to existing warfighting capabilities on CG 52-58. ACB12/TI12 (Aegis Modernization) consists of an upgraded computing infrastructure and computer program enhancements to provide increased warfighting capabilities which will modernize CG 59-73 and DDG 51-78. ACB12 Destroyer upgrades will consist of NIFC-CA, SM-6, CDS, CPS, MMSP, and BMD. ACB12 Cruiser Upgrades will consist of NIFC-CA, SM-6, CDS, CPS and MMSP SPY-1B(V) Integration. ACB14 will be limited to a combination of capabilities outlined in OPNAV's ACB14 Development Guidance Letter: Aegis BMD, MH-60R, IFF Mode S, DWC, SEWIP BLK II, C5I updates, training and selected SBIRs.

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| Title: AEGIS DEVELOPMENT SUPPORT | 31.572 | 33.916 | 30.999 |
| Articles: | 0 | 0 | 0 |

UNCLASSIFIED

| | | | | |
|--|--|---|----------------|----------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604307N: <i>Surface Combatant Cmbt Sys Eng</i> | PROJECT 1447: <i>Surf Combatant Combat System Imp</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| <p><i>FY 2010 Accomplishments:</i> Provided Aegis development support for the following: CSEDS, Program Generation Center, and Computer Program Test Site (CPTS) in support of Aegis computer program development, testing, and integration for all AWS products. Continued to provide systems engineering services at our labs and field activities, to include program management support, modeling & simulation, requirements management, warfighting capability integration impacts, and conceptual studies. Provided computer program license funding to support land based test sites installation, development and test efforts. Provided COTS issue resolution to support in service Aegis Ships and address computer program modification to enable integration of replacements parts. Aegis development support in FY10 was primarily in support of ACB12/TI12 and ACB08.1 test efforts.</p> <p><i>FY 2011 Plans:</i> Plan to provide Aegis development support for the following: CSEDS, Program Generation Center, and CPTS in support of Aegis computer program development, testing, and integration for all AWS products. Continue to provide systems engineering for labs and field activities to support services; provide program management support, modeling & simulation, requirements management, warfighting capability integration impacts, and conceptual studies. Provides computer program license funding to support land based test sites installation, development and test efforts. Provide COTS issue resolution to support in service Aegis Ships and address computer program modification to enable integration of replacements parts. Aegis development support in FY11 is primarily in support of ACB12/TI12, Aegis B/L 7.1.3 upgrade, ACB08.1.1.1 upgrade, and future combat system development efforts.</p> <p><i>FY 2012 Plans:</i> Plan to provide Aegis development support for the following: CSEDS, Program Generation Center, and CPTS in support of Aegis computer program development, testing, and integration for all AWS products. Continue to provide systems engineering for labs and field activities to support services; provide program management support, modeling & simulation, requirements management, warfighting capability integration impacts, and conceptual studies. Provides computer program license funding to support land based test sites installation, development and test efforts. Provide COTS issue resolution to support in service AEGIS Ships and address computer program modification to enable integration of replacements parts. Aegis development support in FY12 is primarily in support of ACB12/TI12, MMSP on cruisers, DDG113, Aegis B/L 7.1R backfit, and future combat system development efforts.</p> | | | | |
| Title: ADVANCED CAPABILITY BUILD ACB08 | | 6.970 | 1.600 | 0.700 |
| Articles: | | 0 | 0 | 0 |
| <i>FY 2010 Accomplishments:</i> | | | | |

UNCLASSIFIED

| | | | | |
|---|--|---|----------------|----------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604307N: <i>Surface Combatant Cmbt Sys Eng</i> | PROJECT 1447: <i>Surf Combatant Combat System Imp</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| <p>Completed computer program development and successfully Certified ACB08. Commenced and completed critical computer program discrepancies corrections and provided an upgraded computer program with increased capability related to Technical Data Collection (TDC) and planned certification in Jun 2010.</p> <p>FY 2011 Plans: Addressing critical computer program discrepancies related to upgraded capabilities integrated within the Aegis ACB08 combat system configuration, and deliver upgraded computer program (8.1.1.1).</p> <p>FY 2012 Plans: Address critical computer program discrepancies related to upgraded capabilities integrated within the Aegis ACB08 combat system configuration.</p> | | | | |
| <p>Title: TECHNOLOGY INSERTION TI12</p> <p align="right">Articles:</p> <p>FY 2010 Accomplishments: Provided system engineering required for integration of COTS technology including CDS, CPS, and other COTS hardware associated with the Aegis Weapon System. Completed Critical Design Review (CDR) and In Progress Review (IPR) #4. Supported ACB12 system engineering to develop and integrate increased capabilities. Continued computer program development efforts related to Aegis ACB12. Continue testing and integration of Aegis ACB12 capabilities identified.</p> <p>FY 2011 Plans: Continue to provide system engineering required for integration of COTS technology including CDS, CPS, and other COTS hardware associated with the Aegis Weapon System. Successfully conducted IPR #5. Continue to support ACB12 system engineering to develop and integrate increased capabilities. Continue computer program development efforts related to Aegis ACB12. Continued testing and integration of Aegis ACB12 capabilities identified.</p> <p>FY 2012 Plans: Continue to provide system engineering required for integration of COTS technology including CDS, CPS, and other COTS hardware associated with the AEGIS Weapon System. Continue to support system engineering review Test Readiness Review (TRR), System Functional Test (SFT), and Mission Readiness Assessment (MRA). Continue to support ACB12 system engineering to developed and integrated increased capabilities. Continue computer program development efforts related to Aegis ACB12. Continue testing and integration of Aegis ACB12 capabilities identified. Execute Aegis Weapon System demonstration to support system level testing.</p> | | 9.566 0 | 3.175 0 | 1.721 0 |
| <p>Title: ADVANCED CAPABILITY BUILD ACB12</p> <p align="right">Articles:</p> | | 79.459 0 | 72.405 0 | 73.724 0 |

UNCLASSIFIED

| | | | | |
|---|--|---|----------------|----------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604307N: <i>Surface Combatant Cmbt Sys Eng</i> | PROJECT 1447: <i>Surf Combatant Combat System Imp</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| <p><i>FY 2010 Accomplishments:</i> Completed CDR and IPR #4. Supported ACB12 system engineering to develop and integrate increased capabilities. Continued computer program development efforts related to Aegis ACB12. Continued testing and integration of Aegis ACB12 identified capabilities.</p> <p><i>FY 2011 Plans:</i> Successfully conducted IPR #5. Continue to support ACB12 system engineering to develop and integrate increased capabilities. Continue computer program development efforts related to Aegis ACB12. Continue testing and integration of Aegis ACB12 identified capabilities.</p> <p><i>FY 2012 Plans:</i> Continue to provide system engineering to support TRR, SFT, and MRA. Continue to support ACB12 system engineering to develop and integrate increased capabilities. Continue computer program development efforts related to Aegis ACB12. Continue testing and integration of Aegis ACB12 identified capabilities. Execute Aegis Weapon System demonstration to support system level testing.</p> | | | | |
| <p>Title: ADVANCED CAPABILITY BUILD 12 DELTA CONFIGURATION (DDG 113)</p> <p align="right">Articles:</p> <p><i>FY 2010 Accomplishments:</i> Evaluated and commenced update of Aegis Combat System Specification to support new construction combat system configuration identified for DDG 113.</p> <p><i>FY 2011 Plans:</i> Complete system engineering related to the specific design review and complete CDR changes required to support the configuration changes. Commence computer program capture from Aegis ACB 12. Conduct IPR to monitor the development and integration of DDG 113 combat system design configuration. Support development and integration of the SPY-1D(V) Radar with MMSP.</p> <p><i>FY 2012 Plans:</i> Continue code capture and commence computer program development, commence system test to evaluate DDG 113 unique configuration. Conduct IPR to monitor the development and integration of DDG 113 combat system configuration. Support Production Readiness Review (PRR) related to the DDG 113 Combat System. Continue to develop SPY-1D (V) Radar interface to the MMSP.</p> | | 9.859 0 | 34.200 0 | 29.110 0 |
| <p>Title: ADVANCED CAPABILITY BUILD ACB14</p> <p align="right">Articles:</p> | | 9.429 0 | 27.140 0 | 35.560 0 |

UNCLASSIFIED

| | | | | |
|---|--|---|----------------|----------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604307N: <i>Surface Combatant Cmbt Sys Eng</i> | PROJECT 1447: <i>Surf Combatant Combat System Imp</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| <p><i>FY 2010 Accomplishments:</i> Accelerated system engineering review to develop and integrate the AEGIS SPY-1B (V) with MMSP for CG65-73 within the ACB12 Computer Program configuration. Evaluate future capabilities to be integrated within the Aegis ACB14 Combat System configuration. Complete program kickoff to define system level requirements and combat system design impact to integrate the selected capabilities.</p> <p><i>FY 2011 Plans:</i> Continue system engineering efforts to complete SRR to develop and integrate the Aegis SPY-1B(V) with MMSP. Complete system engineering efforts to define and modify the Aegis ACB12 specification to develop and integrate future capabilities.</p> <p><i>FY 2012 Plans:</i> Continue system engineering efforts to complete IPR #1. Commence computer program development to integrate the Aegis SPY-1B (V) radar and MMSP within the ACB12 Computer Program configuration. Commence development testing effort to validate capability requirements.</p> | | | | |
| <p><i>Title:</i> NAVAL INTEGRATED FIRE CONTROL-COUNTER AIR</p> <p align="right"><i>Articles:</i></p> <p><i>FY 2010 Accomplishments:</i> Supported the ACB12 CDR. Completed NIFC-CA computer program modification required to achieve the defined requirements. Initiated computer program testing. Commenced upgrade to WSMR to support NIFC-CA testing.</p> <p><i>FY 2011 Plans:</i> Continue to support NIFC-CA development and integration within the Aegis ACB12 combat system configuration. Maintain White Sands Missile Range (WSMR) site to support NIFC-CA and SM6 integration within the Aegis ACB12 combat system. Conduct IPR to monitor the development and integration of the NIFC-CA capability.</p> <p><i>FY 2012 Plans:</i> Continue to support NIFC-CA development and integration within the Aegis ACB12 combat system configuration. Maintain WSMR site to support NIFC-CA and SM6 integration within the Aegis ACB12 combat system. Conduct IPR to monitor the development and integration of the NIFC-CA capability.</p> | | 24.678 0 | 21.497 0 | 11.994 0 |
| <p><i>Title:</i> AEGIS BASELINE 7.1.2 UPGRADE</p> <p align="right"><i>Articles:</i></p> <p><i>FY 2012 Plans:</i> Provide engineering effort to develop work package definition, identify specification changes, and define design information to port the Aegis B/L 7.1R Computer Program within the Aegis B/L 7.1.2 Hardware configuration and address fleet reported deficiencies</p> | | - | - | 19.500 0 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604307N: <i>Surface Combatant Cmbt Sys Eng</i> | PROJECT 1447: <i>Surf Combatant Combat System Imp</i> |
|---|--|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| related to maintainability, interoperability, and stability. Provide NJ site upgrades to support development and test efforts related to Aegis B/L 7.1.2 back fit plan. | | | |
| Title: FUTURE COMBAT SYSTEM DEVELOPMENT AND INTEGRATION | - | - | 19.975 |
| FY 2012 Plans: Commence system engineering efforts to address the development and integration of the Air & Missile Defense Radar (AMDR) into Aegis. | | | 0 |
| Articles: | | | |
| Accomplishments/Planned Programs Subtotals | 171.533 | 193.933 | 223.283 |

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|-----------|-----------|-----------------|----------------|------------------|-----------|-----------|-----------|-----------|---------------------|------------|
| • R&D 0604501N: <i>Multi Mission Signal Processor</i> | 52.649 | 32.607 | 32.361 | 0.000 | 32.361 | 25.778 | 14.989 | 19.324 | 19.638 | Continuing | Continuing |
| • SCN 2122: <i>DDG 51</i> | 2,483.578 | 2,970.174 | 2,319.392 | 0.000 | 2,319.392 | 3,405.498 | 3,181.098 | 2,995.564 | 2,513.860 | Continuing | Continuing |
| • OPN 0960: <i>CG Modernization</i> | 316.711 | 356.958 | 590.349 | 0.000 | 590.349 | 594.209 | 642.274 | 246.502 | 245.904 | Continuing | Continuing |
| • OPN 5246: <i>AEGIS Support Equipment</i> | 99.119 | 162.307 | 43.148 | 0.000 | 43.148 | 47.986 | 66.915 | 51.694 | 58.640 | Continuing | Continuing |
| • OPN 0900: <i>DDG Modernization</i> | 159.296 | 296.691 | 119.522 | 0.000 | 119.522 | 441.455 | 346.020 | 692.153 | 519.938 | Continuing | Continuing |
| • R&D 0603879N PU 3031: <i>SIAP (IABM Integration for DDG)</i> | 40.097 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 40.097 |
| • R&D 0604378N PU 3159: <i>NIFC-CA</i> | 10.574 | 21.517 | 24.898 | 0.000 | 24.898 | 28.990 | 15.849 | 4.651 | 4.743 | Continuing | Continuing |
| • OPN 2980: <i>Multi Mission Signal Processor</i> | 0.200 | 18.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | Continuing | Continuing |

D. Acquisition Strategy

Combat system improvements are implemented in baselines as described in the project mission statement. After the combat system is completed and tested, the computer program and associated equipment are delivered to the new construction shipbuilders and modernization shipyards where the program and equipment are installed and tested along with all other elements of the shipboard combat system and associated combat support systems. The computer program is a Government Furnished Equipment (GFE) deliverable to the Production Test Center for equipment test and check out. Future Combat System delivery will be provided in ACBs

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy DATE: February 2011

| APPROPRIATION/BUDGET ACTIVITY | R-1 ITEM NOMENCLATURE | PROJECT |
|---|--|---|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | PE 0604307N: <i>Surface Combatant Cmbt Sys Eng</i> | 1447: <i>Surf Combatant Combat System Imp</i> |

and TIs using a contract to provide Platform System Engineering Agent (PSEA) services. Additional contracts will be awarded to address ACB12 completion, ACB14 development, Sites Management, and MMSP development.

E. Performance Metrics

Combat system development efforts will complete major development milestones.

Major Milestones for ACB12:

Completion of IPR #4 in third quarter FY10.

Completion of IPR #5 in first quarter of FY11.

Test Readiness Review # 1 (TRR#1) in fourth quarter of FY12.

Final Certification in first quarter of FY14.

Major Milestones for ACB14:

System Requirements Review (SRR) in second quarter of FY11.

In Progress Review #1 in first quarter of FY12.

In Progress Review #2 in first quarter of FY13.

In Progress Review #3 in third quarter of FY13.

Demonstration in first quarter FY14.

Mission Readiness Review (MRR) in third quarter FY14.

Final Certification in second quarter FY15.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604307N: <i>Surface Combatant Cmbt Sys Eng</i> | PROJECT 1447: <i>Surf Combatant Combat System Imp</i> |
|---|--|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Systems Engineering | SS/CPAF | Lockheed Martin:Moorestown, NJ | 1,546.084 | 107.039 | Dec 2010 | 132.249 | Oct 2011 | - | | 132.249 | 0.000 | 1,785.372 | |
| Systems Engineering | SS/CPFF | APL:Baltimore, MD | 38.448 | 6.505 | Nov 2010 | 6.700 | Oct 2011 | - | | 6.700 | 0.000 | 51.653 | |
| Systems Engineering | WR | NSWC:Dahlgren, VA | 238.535 | 35.617 | Nov 2010 | 36.477 | Oct 2011 | - | | 36.477 | 0.000 | 310.629 | |
| Systems Engineering | SS/CPAF | BAE Systems:Rockville, MD | 32.299 | 4.112 | Feb 2011 | 3.984 | Oct 2011 | - | | 3.984 | 0.000 | 40.395 | |
| Systems Engineering | WR | NSWC:Port Hueneme, CA | 45.099 | 6.115 | Nov 2010 | 6.054 | Oct 2011 | - | | 6.054 | 0.000 | 57.268 | |
| Systems Engineering | WR | NWAS:Corona, CA | 26.207 | 0.444 | Nov 2010 | 1.200 | Oct 2011 | - | | 1.200 | 0.000 | 27.851 | |
| Systems Engineering | WR | SPAWAR:San Diego, CA | 9.099 | 0.300 | Nov 2010 | 0.390 | Oct 2011 | - | | 0.390 | 0.000 | 9.789 | |
| Systems Engineering | WR | Various:Various | 76.771 | 18.599 | Dec 2010 | 19.041 | Oct 2011 | - | | 19.041 | 0.000 | 114.411 | |
| Award fees | SS/CPAF | Lockheed Martin:Moorestown, NJ | 191.659 | 8.490 | Dec 2010 | 9.414 | Oct 2011 | - | | 9.414 | 0.000 | 209.563 | |
| Award fees | SS/CPAF | BAE Systems:Rockville, MD | 1.962 | 0.089 | Feb 2011 | 0.110 | Oct 2011 | - | | 0.110 | 0.000 | 2.161 | |
| Award fees | SS/CPAF | Alion Science:Washington DC | 1.540 | 0.290 | Dec 2010 | 0.320 | Oct 2011 | - | | 0.320 | 0.000 | 2.150 | |
| Award fees | WR | Various:Various | 6.234 | 0.644 | Jul 2011 | 0.830 | Oct 2011 | - | | 0.830 | 0.000 | 7.708 | |
| Subtotal | | | 2,213.937 | 188.244 | | 216.769 | | - | | 216.769 | 0.000 | 2,618.950 | |

Remarks
 Various Performing Activities consist of multiple performing activities with funding for each no greater than \$1 million per year. These larger performing activities include CECOM, National Research Lab (NRL), CDSA Damneck, NSWC/Crane, NSWC/Indianhead, and NAWC China Lake.

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Test and Evaluation | WR | Department of Interior:Boise, Idaho | 37.140 | 0.550 | Jul 2011 | 0.900 | Oct 2011 | - | | 0.900 | 0.000 | 38.590 | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

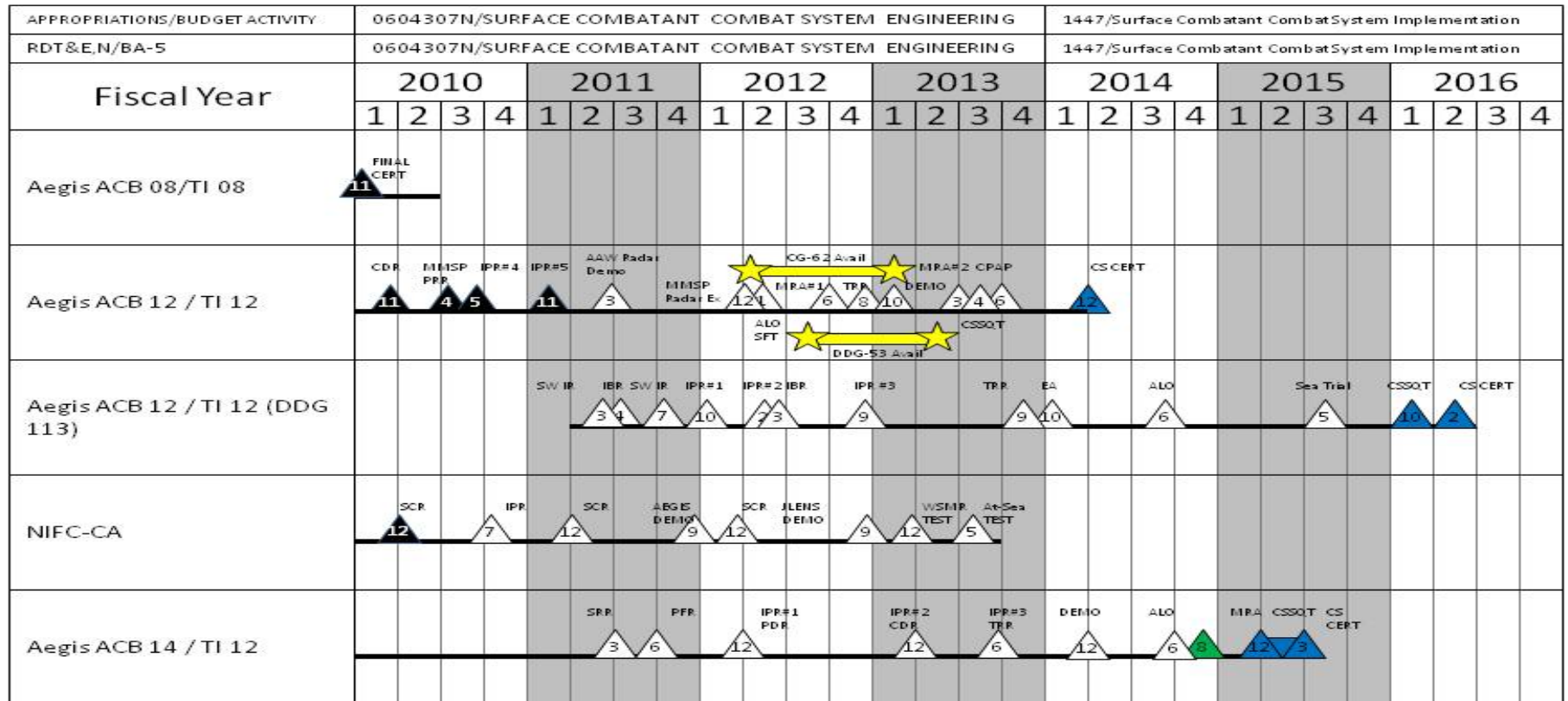
1319: Research, Development, Test & Evaluation, Navy
BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

PE 0604307N: Surface Combatant Cmbt Sys
Eng

PROJECT

1447: Surf Combatant Combat System Imp



UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604307N: <i>Surface Combatant Cmbt Sys Eng</i> | PROJECT 1447: <i>Surf Combatant Combat System Imp</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 1447 | | | | |
| ADVANCED CAPABILITY BUILD 08 FINAL CERTIFICATION | 1 | 2010 | 1 | 2010 |
| ADVANCED CAPABILITY BUILD 08 AWS 8.1 FINAL CERTIFICATION | 3 | 2010 | 3 | 2010 |
| ADVANCED CAPABILITY BUILD 12 CRITICAL DESIGN REVIEW | 1 | 2010 | 1 | 2010 |
| ADVANCED CAPABILITY BUILD 12 IN-PROGRESS REVIEW #4 | 3 | 2010 | 3 | 2010 |
| ADVANCED CAPABILITY BUILD 12 IN-PROGRESS REVIEW #5 | 1 | 2011 | 1 | 2011 |
| ADVANCED CAPABILITY BUILD 12 SYSTEM FUNCTIONAL TEST | 2 | 2012 | 2 | 2012 |
| ADVANCED CAPABILITY BUILD 12 MISSION READINESS ASSESSMENT #1 | 3 | 2012 | 3 | 2012 |
| ADVANCED CAPABILITY BUILD 12 TEST READINESS REVIEW | 4 | 2012 | 4 | 2012 |
| ADVANCED CAPABILITY BUILD 12 DEMONSTRATION | 1 | 2013 | 1 | 2013 |
| ADVANCED CAPABILITY BUILD 12 MISSION READINESS ASSESSMENT #2 | 2 | 2013 | 2 | 2013 |
| ADVANCED CAPABILITY BUILD 12 COMBAT SYSTEM SHIPS QUALIFICATION TRIAL | 3 | 2013 | 3 | 2013 |
| ADVANCED CAPABILITY BUILD 12 FINAL CERTIFICATION | 1 | 2014 | 1 | 2014 |
| ADVANCED CAPABILITY BUILD 12 DDG 113 IN-PROGRESS REVIEW #1 | 1 | 2012 | 1 | 2012 |
| ADVANCED CAPABILITY BUILD 12 DDG 113 IN-PROGRESS REVIEW #2 | 2 | 2012 | 2 | 2012 |
| ADVANCED CAPABILITY BUILD 12 DDG 113 IN-PROGRESS REVIEW #3 | 4 | 2012 | 4 | 2012 |
| ADVANCED CAPABILITY BUILD 12 DDG 113 TEST READINESS REVIEW | 4 | 2013 | 4 | 2013 |
| ADVANCED CAPABILITY BUILD 12 DDG 113 AEGIS LIGHT OFF | 4 | 2014 | 4 | 2014 |
| ADVANCED CAPABILITY BUILD 12 DDG 113 SEA TRIALS | 3 | 2015 | 3 | 2015 |
| ADVANCED CAPABILITY BUILD 12 DDG 113 COMBAT SYSTEM SHIPS QUALIFICATION TRIAL | 1 | 2016 | 1 | 2016 |
| ADVANCED CAPABILITY BUILD 12 DDG 113 FINAL CERTIFICATION | 2 | 2016 | 2 | 2016 |

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604307N: <i>Surface Combatant Cmbt Sys Eng</i> | PROJECT 1447: <i>Surf Combatant Combat System Imp</i> |

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| ADVANCED CAPABILITY BUILD 14 SYSTEM REQUIREMENTS REVIEW | 1 | 2011 | 1 | 2011 |
| ADVANCED CAPABILITY BUILD 14 SYSTEM FUNCTIONAL REVIEW | 3 | 2011 | 3 | 2011 |
| ADVANCED CAPABILITY BUILD 14 IN-PROGRESS REVIEW #1/PRELIMINARY DESIGN REVIEW | 1 | 2012 | 1 | 2012 |
| ADVANCED CAPABILITY BUILD 14 IN-PROGRESS REVIEW #2 CRITICAL DESIGN REVIEW | 1 | 2013 | 1 | 2013 |
| ADVANCED CAPABILITY BUILD 14 IN-PROGRESS REVIEW #3 TEST READINESS REVIEW | 3 | 2013 | 3 | 2013 |
| ADVANCED CAPABILITY BUILD 14 DEMONSTRATION | 1 | 2014 | 1 | 2014 |
| ADVANCED CAPABILITY BUILD 14 AEGIS LIGHT OFF | 3 | 2014 | 3 | 2014 |
| ADVANCED CAPABILITY BUILD 14 MISSION READINESS ASSESSMENT | 4 | 2014 | 4 | 2014 |
| ADVANCED CAPABILITY BUILD 14 COMBAT SYSTEM SHIPS QUALIFICATION TRIAL | 1 | 2015 | 1 | 2015 |
| ADVANCED CAPABILITY BUILD 14 FINAL CERTIFICATION | 2 | 2015 | 2 | 2015 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604307N: <i>Surface Combatant Cmbt Sys Eng</i> | PROJECT 9999: <i>Congressional Adds</i> |
|---|--|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 9999: <i>Congressional Adds</i> | 5.576 | - | - | - | - | - | - | - | - | 0.000 | 5.576 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Congressional Add.

B. Accomplishments/Planned Programs (\$ in Millions)

| | FY 2010 | FY 2011 |
|---|---------|---------|
| Congressional Add: Advanced Capability Build 12 and 14 | 1.593 | - |
| FY 2010 Accomplishments: FY10 Congressional add supports research and development efforts in conjunction with Aegis Advanced Capability Builds (ACB)12 and 14. | | |
| Congressional Add: Aegis Research and Development | 3.983 | - |
| FY 2010 Accomplishments: FY10 Congressional add supports research and development efforts in conjunction with future Aegis implementations. | | |
| Congressional Adds Subtotals | 5.576 | - |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

Congressional Add.

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | | | | R-1 ITEM NOMENCLATURE | | | | | | | |
|---|----------------|----------------|---------------------|--|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | PE 0604311N: <i>LPD-17 Class Systems Integration</i> | | | | | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| Total Program Element | 5.085 | 1.373 | 0.884 | - | 0.884 | 0.897 | 0.913 | 0.929 | 0.954 | Continuing | Continuing |
| 2283: <i>LPD-17 Class System Integration</i> | 5.085 | 1.373 | 0.884 | - | 0.884 | 0.897 | 0.913 | 0.929 | 0.954 | Continuing | Continuing |

A. Mission Description and Budget Item Justification

The LPD 17 Class ships are functional replacements for 41 ships of four classes of amphibious ships. These new ships embark, transport, and land elements of Marine landing forces in an amphibious assault by helicopters, landing craft, and amphibious vehicles. Tactics, techniques, and tools for naval expeditionary warfare continue to evolve. The LPD 17 Class configuration must continue to adapt to this evolutionary process as these ships are expected to be in service until almost 2050. The LPD 17 design includes system configurations that reduce operating and support costs and facilitate operational performance improvements. The RDT&E,N funding will be used for system engineering and integration efforts to resolve obsolescence issues facing the LPD 17 class components, as well as develop further reductions in life cycle costs, and will integrate performance upgrades in a rapid, affordable manner. These efforts will result in well-defined specifications and drawings in system integration design packages that provide technical baselines for follow-on ship procurements. This program is funded under Engineering and Manufacturing Development because it encompasses engineering and manufacturing development of new end-items prior to production approval decision. Additionally, although operational testing ends in FY2008, funding is required in FY2010 for Follow On Test and Evaluation(FOT&E) as outlined in the Test and Evaluation Master Plan updates based on Initial Operational Test and Evaluation(IOT&E) Report findings. LSD(X) integration efforts began in FY2010. LSD(X) moved to RDTEN PE 0603564N Project 2474 starting in FY12 and out.

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 5.282 | 1.373 | 2.780 | - | 2.780 |
| Current President's Budget | 5.085 | 1.373 | 0.884 | - | 0.884 |
| Total Adjustments | -0.197 | - | -1.896 | - | -1.896 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | - | - | | | |
| • SBIR/STTR Transfer | -0.184 | - | | | |
| • Program Adjustments | - | - | -1.893 | - | -1.893 |
| • Section 219 Reprogramming | -0.013 | - | - | - | - |
| • Rate/Misc Adjustments | - | - | -0.003 | - | -0.003 |

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604311N: *LPD-17 Class Systems Integration*

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

FY 12 funding for LSD replacement efforts moved to RDTEN PE 0603564N Project 2474

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604311N: <i>LPD-17 Class Systems Integration</i> | PROJECT 2283: <i>LPD-17 Class System Integration</i> |
|---|--|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 2283: <i>LPD-17 Class System Integration</i> | 5.085 | 1.373 | 0.884 | - | 0.884 | 0.897 | 0.913 | 0.929 | 0.954 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

The LPD 17 Class ships are functional replacements for 41 ships of four classes of amphibious ships. These new ships embark, transport, and land elements of Marine landing forces in an amphibious assault by helicopters, landing craft, and amphibious vehicles. Tactics, techniques, and tools for naval expeditionary warfare continue to evolve. The LPD 17 Class configuration must continue to adapt to this evolutionary process, because these ships are expected to be in service until almost 2050. The LPD 17 design includes system configurations that reduce operating and support costs and facilitate operational performance improvements. System engineering and integration efforts that began in FY 1997 will develop further reductions in life cycle costs and will integrate performance upgrades in a rapid, affordable manner. Possible improvements include advanced sensors, advanced computers, advanced command and control software, advanced information systems technologies, and ship based logistics concepts. Cost reduction and improved performance will be accomplished through sustained modeling and simulation efforts, continued personnel reductions efforts, system performance tradeoff evaluation, and naval expeditionary warfare systems engineering. Feedback from the operational forces for integrating system configurations will be accomplished through the Naval Expeditionary Warfare Centers in Quantico, Dahlgren, and Little Creek, Virginia. These efforts will result in well-defined specifications and drawings in system integration design packages that provide technical baselines for follow-on ship procurements. Additionally, although operational testing ends in FY2008, funding is required in FY2010 for Follow On Test and Evaluation (FOT&E) as outlined in the Test and Evaluation Master Plan updates based on Initial Operational Test and Evaluation(IOT&E) Report findings. LSD(X) integration efforts began in FY2010. LSD(X) moved to RDTEN PE 0603564N Project 2474 starting in FY2012 and out years.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|--|------------|------------|------------|
| <p>Title: LSD(X) Systems Integration</p> <p style="text-align: right;">Articles:</p> <p>Description: LSD(X) Systems Integration. LSD(X) is a replacement for the retiring LSD 41 and LSD 49 Classes (that may be based in the LPD 17 hull form). RDTEN profile supports necessary preliminary efforts.</p> <p>FY 2010 Accomplishments: Preparation of documentation for Gate process and Defense Acquisition Board(DAB) to define the way ahead for LSD(R).</p> <p>FY 2011 Plans: Continue development of documentation for Gate Process and DAB.</p> | 0.228 0 | 0.421 0 | - 0 |
| <p>Title: Systems Engineering/Integration</p> <p style="text-align: right;">Articles:</p> | 0.941 0 | 0.952 0 | 0.884 0 |

UNCLASSIFIED

| | | | | |
|---|--|--|----------------|----------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604311N: <i>LPD-17 Class Systems Integration</i> | PROJECT 2283: <i>LPD-17 Class System Integration</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| <p>Description: Continuing Naval Expeditionary Warfare Systems Engineering efforts and integration efforts for unique LPD 17 Class systems, including efforts to resolve obsolescence issues impacting the class.</p> <p>FY 2010 Accomplishments: Conducting Bipolar Power Amplifier Unit (BPAU) Degaussing Controller Unit Reliability Study, SMART/SAN Antonio Study, and Ship Control System(SCS) Electronic Data Recorder (EDR) Analysis. Training System and Gap Analysis to identify and validate manpower and training, Operational Test Plan Development, Demonstration and Procedures Plan(DPP) Support, USMC Communication Exercise Support, LPD 17 JITC Certification/OPEVAL Support, Follow On Test and Evaluation (FOT&E) MARCORSSYSCOM Support, Advanced Enclosed Mast/Sensor (AEM/S) Access Study, and Radar Cross-Section Reduction (RCSR) Testing of MOGAS Rack.</p> <p>FY 2011 Plans: Continue the BPAU Degaussing Controller Unit Reliability Study, SMART/SAN Antonio Study, and SCS EDR Analysis. Continue the Training System process and GAP Analysis to identify and validate manpower and training, Operational Test Plan Development, DPP Support, USMC Communication Exercise Support, LPD 17 JITC Certification/OPEVAL Support, FOT&E MARCORSSYSCOM Support, AEM/S Access Study, and RCSR Testing of MOGAS Rack.</p> <p>FY 2012 Plans: Continue the BPAU Degaussing Controller Unit Reliability Study, SMART/San Antonio Study, and SCS EDAR Analysis. Continue the Training System process and GAP Analysis to identify and validate manpower and training, USMC Communication Exercise Support.</p> | | | | |
| <p>Title: OT&E</p> <p>Description: Funding allows for operational test force support, range time, procurement of rounds/targets for testing, and other related costs as defined by the Test and Evaluation Master Plan updates based on Initial Operational Test and Evaluation(IOT&E) Report findings. FY2010 funding is for Follow On Test & Evaluation (FOT&E).</p> <p>FY 2010 Accomplishments: Started OPEVAL Report corrections, and designated FOT&E test events. These efforts will complete in FY11.</p> | | 3.916 0 | - | - |
| Accomplishments/Planned Programs Subtotals | | 5.085 | 1.373 | 0.884 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604311N: <i>LPD-17 Class Systems Integration</i> | PROJECT 2283: <i>LPD-17 Class System Integration</i> |
|---|--|--|

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> <u>Base</u> | <u>FY 2012</u> <u>OCO</u> | <u>FY 2012</u> <u>Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
|---|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| • SCN/3036: <i>LPD 17 (Full Funding)</i> | 869.394 | 0.000 | 1,847.444 | 0.000 | 1,847.444 | 0.000 | 54.000 | 38.000 | 25.000 | 0.000 | 2,833.838 |
| • SCN/3036C: <i>LPD 17 (Advance Procurement)</i> | 183.986 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 183.986 |
| • SCN/5300: <i>Completion of Prior Year Shipbuilding Programs</i> | 99.342 | 0.000 | 73.992 | 0.000 | 73.992 | 98.994 | 0.000 | 0.000 | 0.000 | 0.000 | 272.328 |

D. Acquisition Strategy

FY12 and out: continue developmental sole source efforts

E. Performance Metrics

LPD17 Class ships will conduct Follow On Test and Evaluation as outlined in the test and evaluation Master Plan. LSD(X) Systems Integration efforts begin the preparation of documentation for Analysis of Alternative and Milestone (MS) A documentation. LSD(X) funding moved to RD TEN PE 0603564N project 2474 starting in FY2012 and out years.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604311N: <i>LPD-17 Class Systems Integration</i> | PROJECT 2283: <i>LPD-17 Class System Integration</i> |
|---|--|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|---|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Systems Engineering and Integration | WR | NSWC Crane: NSWC Crane, IN | 11.713 | 0.452 | Dec 2010 | 0.384 | Dec 2011 | - | | 0.384 | 0.000 | 12.549 | |
| Systems Engineering and Integration | C/CPFF | Raytheon Company: San Diego, CA | - | 0.500 | Dec 2010 | 0.500 | Dec 2011 | - | | 0.500 | 0.000 | 1.000 | |
| LSD(X) Systems Integration (Next Gen.) | C/CPFF | CSC, Alion Science: Washington, DC | 0.228 | 0.321 | Dec 2010 | - | | - | | - | 0.000 | 0.549 | |
| LSD(X) Systems Integration (Next Gen.) | WR | NSWC Carderock, NSWC Dahlgren: NSWC Beth, MD, NSWC Dahlgren, VA | - | 0.100 | Dec 2010 | - | | - | | - | 0.000 | 0.100 | |
| LSD(X) Systems Integration (Next Gen.) | WR | PEO-C4I, PEO-IWS: Washington, DC | - | - | | - | | - | | - | 0.000 | 0.000 | |
| DAWF | Various | Various: Various | 0.005 | - | | - | | - | | - | 0.000 | 0.005 | |
| Subtotal | | | 11.946 | 1.373 | | 0.884 | | - | | 0.884 | 0.000 | 14.203 | |








| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| OT&E/Interoperability | WR | OPTEVFOR: WR | 15.492 | - | | - | | - | | - | 0.000 | 15.492 | |
| Subtotal | | | 15.492 | - | | - | | - | | - | 0.000 | 15.492 | |

| | | | Total Prior Years Cost | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|--|--|------------------------|---------|--|--------------|--|-------------|--|---------------|------------------|------------|--------------------------|
| Project Cost Totals | | | 27.438 | 1.373 | | 0.884 | | - | | 0.884 | 0.000 | 29.695 | |

Remarks

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604311N: <i>LPD-17 Class Systems Integration</i> | PROJECT 2283: <i>LPD-17 Class System Integration</i> |

| Fiscal Year Quarter | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | 2014 | | | | 2015 | | | | 2016 | | | |
|---------------------------|------|---|---|---|--|---|---|---|---|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Acquisition Milestones | | | | |  Milestone III | | | | | | | | | | | | | | | | | | | | | | | |
| Follow-on FOT&E | | | | | | | | |  FOT&E | | | | | | | | | | | | | | | | | | | |
| Deliveries | | | | | | | | |  LPD 22 | | |  LPD 24 | |  LPD 23 | |  LPD 25 | | | | | | | |  LPD 26 | | | | |

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604311N: <i>LPD-17 Class Systems Integration</i> | PROJECT 2283: <i>LPD-17 Class System Integration</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|-----------------------|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 2283 | | | | |
| Deliverables (LPD 22) | 4 | 2011 | 4 | 2011 |
| Deliverables (LPD 23) | 3 | 2012 | 3 | 2012 |
| Deliverables (LPD 24) | 2 | 2012 | 2 | 2012 |
| Deliverables (LPD 25) | 2 | 2013 | 2 | 2013 |
| Deliverables (LPD 26) | 1 | 2016 | 1 | 2016 |
| FOT&E | 2 | 2010 | 4 | 2012 |
| Milestone III | 3 | 2011 | 3 | 2011 |

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | | | | R-1 ITEM NOMENCLATURE | | | | | | | |
|---|----------------|----------------|---------------------|---|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | PE 0604329N: <i>Small Diameter Bomb (SDB)</i> | | | | | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| Total Program Element | 17.494 | 44.091 | 47.635 | - | 47.635 | 45.883 | 69.616 | 94.210 | 78.209 | Continuing | Continuing |
| 3071: <i>Very Low Collateral Damage Weapon</i> | 6.000 | - | - | - | - | - | - | - | - | 0.000 | 6.000 |
| 3072: <i>Small Diameter Bomb (SDB)</i> | 11.494 | 44.091 | 37.555 | - | 37.555 | 36.335 | 44.439 | 90.902 | 75.869 | Continuing | Continuing |
| 3082: <i>JMM BRU</i> | - | - | 10.080 | - | 10.080 | 9.548 | 25.177 | 3.308 | 2.340 | Continuing | Continuing |

Note

In FY 2010, funding for Hard Target Void Sensing Fuze and Joint Surface Warfare (JSuW) was moved to PE 0604659N, Project Unit (PU) 3214 and PU 3215, respectively.

PU 3071, Very Low Collateral Damage Weapon (VLCDW), was established in October 2010 as FY10 OCO funding.

In FY 2011, a second PU 3082 was established for Joint Miniature Munitions Bomb Rack Unit (JMM BRU). Funding for this PU was transferred from PU 3072 for FY12 through FY16. The FY11 funds (\$7.3M) currently reside in PU 3072, however, funding will be executed under the appropriate PU 3082.

A. Mission Description and Budget Item Justification

Small Diameter Bomb Increment II (SDB II) is a joint program, with the Air Force (AF) as the lead service, which provides the warfighter a capability to attack mobile targets in all weather from Stand-Off range. SDB II addresses the following warfighter requirements: attack mobile targets, adverse weather operations, multiple kills per pass, multiple ordnance carriage, precision munitions capability, capability against fixed targets, reduced munitions footprint, increased weapons effectiveness, minimized potential for collateral damage, reduced susceptibility of munitions to countermeasures and provides a net-centric operations capability. The threshold aircraft for the AF is the F-15E and the threshold aircrafts for the Department of Navy are the F-35B and F-35C. SDB II will be compatible with the BRU-61/A miniature munitions carriage.

As a result of the Joint Strike Fighter program's restructure, SDB II's required funding for FY10 was reduced from it's enacted level. The following reprogrammings, FY10-10PA for Training and Recruiting and FY10-12 PA for Counter IED, realigned approximately \$27M from the SDB FY10 program. These reprogrammings were approved by all four (4) committees and have been implemented. The FY11 and FY12 request support the rephased SDB program.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|---|
| APPROPRIATION/BUDGET ACTIVITY | R-1 ITEM NOMENCLATURE |
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> | PE 0604329N: <i>Small Diameter Bomb (SDB)</i> |
| BA 5: <i>Development & Demonstration (SDD)</i> | |

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 43.717 | 44.091 | 74.918 | - | 74.918 |
| Current President's Budget | 17.494 | 44.091 | 47.635 | - | 47.635 |
| Total Adjustments | -26.223 | - | -27.283 | - | -27.283 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | -30.902 | - | | | |
| • SBIR/STTR Transfer | -1.200 | - | | | |
| • Program Adjustments | 6.000 | - | -26.840 | - | -26.840 |
| • Section 219 Reprogramming | -0.119 | - | - | - | - |
| • Rate/Misc Adjustments | - | - | -0.443 | - | -0.443 |
| • Congressional General Reductions Adjustments | -0.002 | - | - | - | - |

Change Summary Explanation

Technical:

Schedule: As a result in the delay of the approved Acquisition Strategy the following milestones have changed: Milestone (MS) B from 2Q FY10 to 4Q FY10, Critical Design Review from 3Q FY10 to 4Q FY10, Engineering Manufacturing Development (EMD) Downselect from 2Q FY10 to 4Q FY10 and EMD from 2Q FY10 to 4Q FY10, MS C from 1Q FY13 to 4Q FY13. Due to delay of F-35 program, SDB II Navy Developmental Testing (DT) program had been moved to the right from FY14 to FY15; Navy Operational Testing (OT) from FY16 to FY17. As a result of the delay in F-35 DT and OT, DoN procurement has been moved from Lot 3/Low Rate Initial Production III to Lot 4/LRIP IV. Respective deliveries will now be FY17 to support the DoN Initial Operating Capability slip from FY16 to FY18.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604329N: <i>Small Diameter Bomb (SDB)</i> | PROJECT 3071: <i>Very Low Collateral Damage Weapon</i> |
|---|---|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 3071: <i>Very Low Collateral Damage Weapon</i> | 6.000 | - | - | - | - | - | - | - | - | 0.000 | 6.000 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

OSD Joint Rapid Acquisition Cell directed execution of joint Precision Lethality (PL) MK-82 Quick Reaction Capability (QRC) to support Joint Urgent Operational Need (JUON) CC-0381 for a Very Low Collateral Damage Weapon (VLCDW). Provides low lethality in far field using non-fragmenting carbon fiber MK-82 form factor case to minimize collateral damage outside near field blast effect. Provides high lethality in near field using a specially tuned variant of high impulse Multi-phase Blast Explosive (MBX) similar to Small Diameter Bomb (SDB).

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|--|---------|---------|---------|
| Title: Very Low Collateral Damage Weapon | 6.000 | - | - |
| Articles: | 0 | | |
| Description: Funding for development of a carbon fiber composite for General Purpose Bombs supporting a JUON for a VLCDW. The warhead matches the shape/mass properties of a MK82 such that it integrates with inventory of precision guidance kits and aircraft. | | | |
| FY 2010 Accomplishments: Initiated VLCDW program and accomplished SRR and PDR. | | | |
| Accomplishments/Planned Programs Subtotals | 6.000 | - | - |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

OSD Joint Rapid Acquisition Cell directed execution of joint PL MK-82 QRC to support JUON CC-0381 for a VLCDW.

E. Performance Metrics

Accomplished SRR and PDR.

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604329N: <i>Small Diameter Bomb (SDB)</i> | PROJECT 3071: <i>Very Low Collateral Damage Weapon</i> |
|---|---|--|

| Very Low Collateral Damage Weapon | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | | | | | |
|--|------------------|-------|-------|----|----------------|----|----|----|----------------|----|----|----|----------------|----|----|----|----------------|----|----|----|----------------|----|----|----|----------------|----|----|----|--|--|--|--|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | | | | |
| Acquisition Milestones | JROC Direction ▲ | | | | Navy IOC ▲ | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Systems Development | Reviews | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | SRR ■ | PDR ■ | CDR ■ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test & Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Technical Evaluation | DT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604329N - 3071

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604329N: <i>Small Diameter Bomb (SDB)</i> | PROJECT 3071: <i>Very Low Collateral Damage Weapon</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| <i>Very Low Collateral Damage Weapon</i> | | | | |
| Acquisition Milestones: JROC Direction | 1 | 2010 | 1 | 2010 |
| Acquisition Milestones: Navy IOC | 4 | 2011 | 4 | 2011 |
| Systems Development: Reviews: Systems Readiness Review (SRR) | 1 | 2010 | 1 | 2010 |
| Systems Development: Reviews: Preliminary Design Review (PDR) | 3 | 2010 | 3 | 2010 |
| Systems Development: Reviews: Critical Design Review (CDR) | 1 | 2011 | 1 | 2011 |
| Test & Evaluation: Technical Evaluation: Development Test (DT) | 2 | 2011 | 3 | 2011 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604329N: <i>Small Diameter Bomb (SDB)</i> | PROJECT 3072: <i>Small Diameter Bomb (SDB)</i> |
|---|---|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 3072: <i>Small Diameter Bomb (SDB)</i> | 11.494 | 44.091 | 37.555 | - | 37.555 | 36.335 | 44.439 | 90.902 | 75.869 | Continuing | Continuing |
| Quantity of RDT&E Articles | 20 | 13 | 80 | 0 | 80 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

SDB II is an ACAT ID program providing the warfighter a capability to attack mobile targets in all weather from Stand-Off range. The Air Force is the executive service, Raytheon in Tucson, AZ is the prime contractor. SDB II addresses the following warfighter requirements: attack mobile targets; multiple kills per pass; multiple ordnance carriage; all weather operations; near-precision munitions capability; capability against fixed targets; reduced munitions footprint; increased weapons effectiveness; minimized potential for collateral damage; reduced susceptibility of munitions to countermeasures; and a migration path to net centric ops capability. Threshold aircraft is the F-15E for the Air Force and F-35 B and F-35 C for the Navy. Objective aircraft include the F/A-22, B-1, B-2, F-117, F-16, B-52, Predator B, and F/A-18 E/F.

As a result of the Joint Strike Fighter program's restructure, SDB II's required funding for FY10 was reduced from it's enacted level. The following reprogrammings, FY10-10PA for Training and Recruiting and FY10-12 PA for Counter IED, realigned approximately \$27M from the SDB FY10 program. These reprogrammings were approved by all four (4) committees and have been implemented. The FY11 and FY12 request support the rephased SDB program.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| <p>Title: SDB II Weapon Support</p> <p align="right">Articles:</p> <p>Description: Funding provides for SDB Engineering Manufacturing and Development (EMD) efforts including weapon vendor support, test assets, and government support.</p> <p>FY 2010 Accomplishments: Funding provided for long lead of Inertial Measurement Vehicle test assets and Raytheon support of F-35 integration.</p> <p>FY 2011 Plans: Continue support of EMD; integration of SDB II with Joint Strike Fighter (JSF) B and C.</p> <p>FY 2012 Plans: Continue support of EMD; integration of SDB II with JSF B and C.</p> | 6.853 | 32.577 | 20.388 |
| | 12 | 13 | 80 |
| <p>Title: JSF Integration</p> <p align="right">Articles:</p> | 0.382 | 11.514 | 17.167 |
| | 0 | 0 | 0 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604329N: <i>Small Diameter Bomb (SDB)</i> | PROJECT 3072: <i>Small Diameter Bomb (SDB)</i> |
|---|---|--|

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|---|------------|---------|---------|
| <p>Description: Funding provided for integration of SDB II on F-35B and F-35C, specifically for Lockheed Martin to develop F-35 Block 3.X Operational Flight Program (OFP) software, flight missions, and support and analysis of missions.</p> <p>FY 2010 Accomplishments: Funding for F-35/BRU-61 adapter hardware, and initial JSF Block 3.X OFP design.</p> <p>FY 2011 Plans: Continue JSF Block 3.X OFP development and coding and support fit checks with SDB II Weapon Vendor (Raytheon).</p> <p>FY 2012 Plans: Continue JSF Block 3.X OFP development and coding and support fit checks with SDB II Weapon Vendor (Raytheon).</p> | | | |
| <p>Title: BRU-61/A SDB Smart Rack</p> <p align="right">Articles:</p> | 4.259 8 | - | - |
| <p>Description: Funding provided for BRU-61 SDB II Carriage System and integration into Navy environments.</p> <p>FY 2010 Accomplishments: Funding provided to purchase 8 BRU-61 Tactical units and associated efforts to complete Dual Power efforts for the F-35.</p> | | | |
| Accomplishments/Planned Programs Subtotals | 11.494 | 44.091 | 37.555 |

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> <u>Base</u> | <u>FY 2012</u> <u>OCO</u> | <u>FY 2012</u> <u>Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
|--|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| • WPN/223800: <i>Small Diameter Bomb II</i> | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 29.244 | 947.254 | 976.498 |
| • RDTE,AF/0604329F: <i>Small Diameter Bomb</i> | 150.082 | 153.505 | 132.890 | 0.000 | 132.890 | 124.642 | 104.354 | 77.712 | 40.862 | 86.100 | 1,125.480 |
| • MPAF/0207327F: <i>Small Diameter Bomb</i> | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 45.940 | 83.006 | 123.602 | 136.320 | 2,179.932 | 2,568.800 |

D. Acquisition Strategy

The SDB Increment II acquisition strategy is to conduct a full and open competition to select up to two contractors to compete during a planned 42-month risk reduction phase prior to entering EMD. This competition began April 17, 2006 with the signature of contracts to the competing contractors: 1) Raytheon and 2) the team of Boeing and Lockheed Martin. A Fixed Price-type contract for EMD, including FFP procurement options for Lots 1-3 was awarded to Raytheon August 9, 2010. Lots 4 & 5 are included in the contract, but are Not-To-Exceed (NTE) options.

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604329N: <i>Small Diameter Bomb (SDB)</i> | PROJECT 3072: <i>Small Diameter Bomb (SDB)</i> |

The Navy funding will support Navy-unique efforts for SDB Increment II, such as aircraft integration, ship suitability, studies and analysis, and program management and government in-house support. These efforts will be performed on several cost-type contracts or through cost reimbursable work requests to government activities and contractors.

E. Performance Metrics

Earned Value Management (EVM) will be implemented on the EMD contract with the successful offeror for the weapon development contract after Milestone B, currently scheduled for July 2010.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604329N: <i>Small Diameter Bomb (SDB)</i> | PROJECT 3072: <i>Small Diameter Bomb (SDB)</i> |
|---|---|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|--|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Primary Hardware Development - (JSuW/HTVSF/ SDB II Risk Reduction) | C/CPFF | Various:Various | 11.238 | - | | - | | - | | - | 0.000 | 11.238 | 11.238 |
| Aircraft Integration - JSF | C/CPFF | Lockheed Martin:Fort Worth, TX | 10.137 | 9.027 | Mar 2011 | 10.208 | Jan 2012 | - | | 10.208 | 75.117 | 104.489 | 104.489 |
| Primary Hardware Development - SDB II EMD | C/FPIF | Raytheon:Tucson, AZ | 3.098 | 10.461 | Jun 2011 | 7.008 | Jan 2012 | - | | 7.008 | 66.685 | 87.252 | 87.252 |
| BRU-61 | C/CPFF | McDonnell Douglas Corp:St Charles, MO | 4.259 | - | | - | | - | | - | 0.000 | 4.259 | 4.259 |
| Joint Miniature Munitions Bomb Rack Unit (JMM BRU) | C/FPIF | TBD:TBD | - | 6.000 | Apr 2011 | - | | - | | - | 0.000 | 6.000 | 6.000 |
| Subtotal | | | 28.732 | 25.488 | | 17.216 | | - | | 17.216 | 141.802 | 213.238 | 213.238 |

Remarks
 Primary Hardware Development Prior Years includes McDonnell Douglas Corp and Raytheon Missile Systems Primary H/W Development for the 42-month risk reduction phase, \$4.393M for each contractor and \$2.6M for Raytheon, specifically for Joint Surface Warfare (JSuW) efforts. (Funding for McDonnell Douglas represents the Boeing/Lockheed Martin team.) Primary H/W and Aircraft Integration to Raytheon in Tucson, AZ in FY10 and out reflects the winning SDB II contractor. Funding for Lockheed Martin F-35 does not include 3.X OFP nor Test missions which are represented in Support and Test sections. Beginning FY12, funding for BRU will be included in PU 3082.

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|--|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Software Development - JSuW/WDLN/HTVSF | Various | Various:Various | 14.715 | - | | - | | - | | - | 0.000 | 14.715 | 14.715 |
| Software Development - JSF | C/CPFF | Lockheed Martin:Ft. Worth, TX | - | 4.381 | Mar 2011 | 7.705 | Jan 2012 | - | | 7.705 | 25.143 | 37.229 | 37.229 |
| Studies & Analyses | C/CPFF | Johns Hopkins University:Baltimore, MD | 2.695 | - | | - | | - | | - | 0.000 | 2.695 | 2.695 |
| Subtotal | | | 17.410 | 4.381 | | 7.705 | | - | | 7.705 | 25.143 | 54.639 | 54.639 |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604329N: <i>Small Diameter Bomb (SDB)</i> | PROJECT 3072: <i>Small Diameter Bomb (SDB)</i> |
|---|---|--|

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | Target Value of Contract |
|---------------------------------|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | |

Remarks
Studies and Analyses include Navy activities to define CONOPS and better define Navy-specific and interoperability requirements, such as Weapon Data Link Advanced Concept Technology Demonstration, Seeker Trade Studies, and Data Link Trade Studies. Prior year Software Development efforts are in support of JSuW Joint Capability Technology Demonstrations (JCTD) incorporation of J.11 Message Set into Strike Weapons and Weapon Data Link Network efforts. Software Development for JSF is the Block 3.X Operational Flight Plan (OFP) and mission planning which supports the SDB II program.

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | Target Value of Contract |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | |
| Developmental Test & Evaluation - JSuW/WDLN | Various | Various:Various | 2.864 | - | | - | | - | | - | 1.250 | 4.114 | |
| Operational Test & Evaluation - SDB II | WR | COMOPTEVFOR:China Lake, CA | 1.010 | - | | 0.121 | Nov 2011 | - | | 0.121 | 14.437 | 15.568 | |
| Developmental Test & Evaluation - SDB II | C/CPFF | Lockheed Martin:Ft. Worth, TX | - | 1.600 | Mar 2011 | - | | - | | - | 43.581 | 45.181 | 45.181 |
| SDB II Weapon Test Assets | C/FFP | Raytheon:Tucson, AZ | 0.386 | 1.674 | Jun 2011 | 5.995 | Jan 2012 | - | | 5.995 | 18.226 | 26.281 | 26.281 |
| JMM BRU Test Assets | C/FPIF | TBD:TBD | - | 0.100 | Apr 2011 | - | | - | | - | 0.000 | 0.100 | 0.100 |
| Subtotal | | | 4.260 | 3.374 | | 6.116 | | - | | 6.116 | 77.494 | 91.244 | |

Remarks
Developmental T&E Various in FY 2010 supports wind tunnel testing. Test assets include weapon assets required for Development Test and Operational Test.

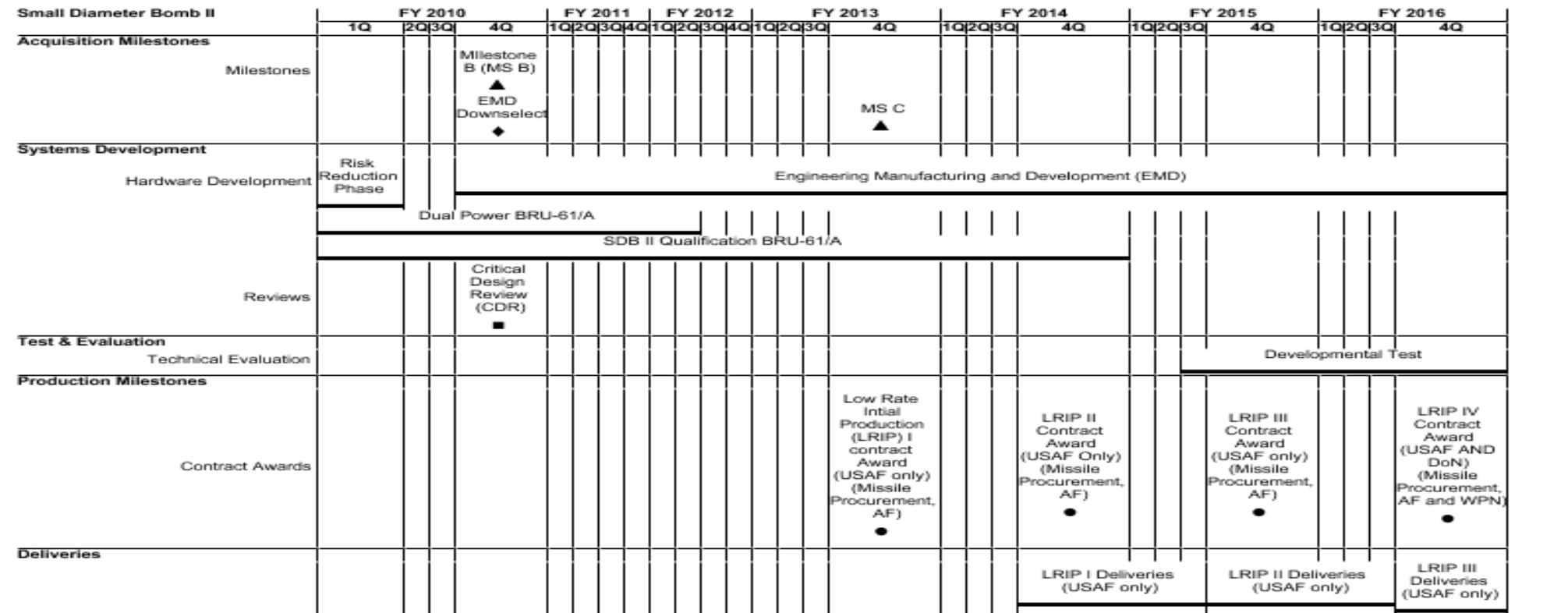
| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | Target Value of Contract |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | |
| Contractor Engineering Services | Various | Various:Various | 1.547 | - | | - | | - | | - | 0.000 | 1.547 | 1.547 |
| Government Engineering Support | WR | NAWC WD:China Lake | 16.578 | 3.095 | Nov 2010 | 2.387 | Nov 2011 | - | | 2.387 | 14.399 | 36.459 | |
| | WR | Various:Various | 8.435 | 4.490 | Nov 2010 | 2.780 | Nov 2011 | - | | 2.780 | 27.031 | 42.736 | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604329N: <i>Small Diameter Bomb (SDB)</i> | PROJECT 3072: <i>Small Diameter Bomb (SDB)</i> |
|---|---|--|



2012PB - 0604329N - 3072

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604329N: <i>Small Diameter Bomb (SDB)</i> | PROJECT 3072: <i>Small Diameter Bomb (SDB)</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| <i>Small Diameter Bomb II</i> | | | | |
| Acquisition Milestones: Milestones: Milestone B (MS B) | 4 | 2010 | 4 | 2010 |
| Acquisition Milestones: Milestones: EMD Downselect | 4 | 2010 | 4 | 2010 |
| Acquisition Milestones: Milestones: MS C | 4 | 2013 | 4 | 2013 |
| Systems Development: Hardware Development: Risk Reduction Phase | 1 | 2010 | 1 | 2010 |
| Systems Development: Hardware Development: Engineering Manufacturing and Development (EMD) | 4 | 2010 | 4 | 2016 |
| Systems Development: Hardware Development: Dual Power BRU-61/A | 1 | 2010 | 2 | 2012 |
| Systems Development: Hardware Development: SDB II Qualification BRU-61/A | 1 | 2010 | 4 | 2014 |
| Systems Development: Reviews: Critical Design Review (CDR) | 4 | 2010 | 4 | 2010 |
| Test & Evaluation: Technical Evaluation: Developmental Test | 3 | 2015 | 4 | 2016 |
| Production Milestones: Contract Awards: Low Rate Initial Production (LRIP) I Contract Award (USAF Only) (Missile Procurement, AF) | 4 | 2013 | 4 | 2013 |
| Production Milestones: Contract Awards: LRIP II Contract Award (USAF Only) (Missile Procurement, AF) | 4 | 2014 | 4 | 2014 |
| Production Milestones: Contract Awards: LRIP III Contract Award (USAF Only) (Missile Procurement, AF) | 4 | 2015 | 4 | 2015 |
| Production Milestones: Contract Awards: LRIP IV Contract Award (USAF and DoN) (Missile Procurement, AF and WPN) | 4 | 2016 | 4 | 2016 |
| Deliveries: LRIP I Deliveries (USAF only) | 4 | 2014 | 3 | 2015 |
| Deliveries: LRIP II Deliveries (USAF only) | 4 | 2015 | 3 | 2016 |
| Deliveries: LRIP III Deliveries (USAF only) | 4 | 2016 | 4 | 2016 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | R-1 ITEM NOMENCLATURE PE 0604329N: <i>Small Diameter Bomb (SDB)</i> | | | | PROJECT 3082: <i>JMM BRU</i> | | | |
|---|----------------|----------------|---------------------|---|----------------------|----------------|----------------|--|----------------|-------------------------|-------------------|
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| 3082: <i>JMM BRU</i> | - | - | 10.080 | - | 10.080 | 9.548 | 25.177 | 3.308 | 2.340 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

Note

In FY 2011, a second PU 3082 was established for Joint Miniature Munitions Bomb Rack Unit (JMM BRU). Funding for this PU was transferred from PU 3072 for FY12 through FY16.

The FY11 funding (\$7.3M) currently reside in PU 3072, however, funding will be executed under the appropriate PU 3082.

A. Mission Description and Budget Item Justification

The Joint Miniature Munitions Bomb Rack Unit (JMM BRU) is a separate ACAT III program with Air Force oversight. It is required for carriage of the SDB II weapon. The SDB II Capability Development Document (CDD) states that it must be operable on the Miniature Munitions Smart Rack BRU-61/A. This rack is currently in production in the USAF, but has never been qualified to DoN environments, nor flown internally in any variant of F-35. The JMM BRU will bridge this gap and provide the DoN with a capable and qualified SDB II rack. Efforts include a Dual Power modification, ensuring adequate power supplied to BRU-61 to meet the SDB II operating environment. Efforts include a Dual Power modification, ensuring adequate power supplied to BRU-61 to meet the SDB II operating environment.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|--|----------------|----------------|----------------|
| <p>Title: Joint Miniature Munitions Bomb Rack Unit (JMM BRU)</p> <p align="right">Articles:</p> | - | - | 10.080 0 |
| <p>Description: Funding provided for the SDB II Carriage System and integration into Navy environments.</p> <p>FY 2012 Plans: Continue Dual Power and Navy Qualification of the JMM BRU.</p> | | | |
| Accomplishments/Planned Programs Subtotals | - | - | 10.080 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604329N: <i>Small Diameter Bomb (SDB)</i> | PROJECT 3082: <i>JMM BRU</i> |
|---|---|--|

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> <u>Base</u> | <u>FY 2012</u> <u>OCO</u> | <u>FY 2012</u> <u>Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
|--|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| • APN/072000: <i>Aircraft Equipment and Facilities</i> | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 10.080 | 18.862 | Continuing | Continuing |

D. Acquisition Strategy

The JMM BRU is an ACAT III program with Air Force oversight. Industry day was held 4Q FY 2010 in order to proceed and meet a Milestone B in 2Q FY 2011.

E. Performance Metrics

Earned Value Management (EVM) will be implemented on the EMD contract with the successful offeror for the weapon development contract after Milestone B, currently scheduled for April 2011.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604329N: <i>Small Diameter Bomb (SDB)</i> | PROJECT 3082: <i>JMM BRU</i> |
|---|---|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|--|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Joint Miniature Munitions Bomb Rack Unit (JMM BRU) | C/CPFF | TBD:TBD | - | - | | 6.000 | Apr 2012 | - | | 6.000 | 23.300 | 29.300 | 29.300 |
| Subtotal | | | - | - | | 6.000 | | - | | 6.000 | 23.300 | 29.300 | 29.300 |

Remarks
Funding provided to the successful offerer (to be determined 2Q FY 2011) for development of a JMM BRU SDB II carriage system which satisfies DoN environments. JMM BRU will carry four SDB II's and will be capable of being used both internally and externally.

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| JMM BRU Test Assets | C/CPFF | TBD:TBD | - | - | | - | | - | | - | 4.001 | 4.001 | 4.001 |
| Subtotal | | | - | - | | - | | - | | - | 4.001 | 4.001 | 4.001 |

Remarks
Funding provided to purchase JMM BRU test assets required for DT and OT.

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Government Engineering Support | WR | NAWC WD:China Lake, CA | - | - | | 1.980 | Nov 2011 | - | | 1.980 | 6.000 | 7.980 | |
| Government Engineering Support | WR | Various:Various | - | - | | 2.056 | Nov 2011 | - | | 2.056 | 10.000 | 12.056 | |
| Travel | MIPR | ASC20OG:Eglin AFB, FL | - | - | | 0.044 | Oct 2011 | - | | 0.044 | 0.300 | 0.344 | |
| Subtotal | | | - | - | | 4.080 | | - | | 4.080 | 16.300 | 20.380 | |

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY
 1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE
 PE 0604329N: *Small Diameter Bomb (SDB)*

PROJECT
 3082: *JMM BRU*

| Joint Miniature Munitions Bomb Rack Unit (JMM BRU) | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | | | | | |
|--|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|--|--|--|--|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | | | | |
| Acquisition Milestonees | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Systems Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hardware Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reviews | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test & Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Technical Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contract Awards | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604329N - 3082

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604329N: <i>Small Diameter Bomb (SDB)</i> | PROJECT 3082: <i>JMM BRU</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Joint Miniature Munitions Bomb Rack Unit (JMM BRU) | | | | |
| Acquisition Milestonees: Milestones: Milestone B | 3 | 2011 | 3 | 2011 |
| Acquisition Milestonees: Milestones: Milestone C | 4 | 2014 | 4 | 2014 |
| Systems Development: Hardware Development: Engineering Manufacturing and Development (EMD) | 2 | 2011 | 4 | 2014 |
| Systems Development: Reviews: Preliminary Design Review (PDR) | 2 | 2012 | 2 | 2012 |
| Systems Development: Reviews: Critical Design Review (CDR) | 2 | 2013 | 2 | 2013 |
| Test & Evaluation: Technical Evaluation: Design Qualification | 2 | 2013 | 4 | 2014 |
| Test & Evaluation: Technical Evaluation: Verification Test | 2 | 2012 | 2 | 2013 |
| Production Milestones: Contract Awards: Low Rate Initial Production (LRIP) I Award (APN7) | 1 | 2015 | 1 | 2015 |
| Production Milestones: Contract Awards: LRIP II Award (APN7) | 1 | 2016 | 1 | 2016 |
| Deliveries: Production Deliveries | 2 | 2016 | 4 | 2016 |

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | | | | R-1 ITEM NOMENCLATURE | | | | | | | |
|---|----------------|----------------|---------------------|---|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | PE 0604366N: <i>Standard Missile Improvements</i> | | | | | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| Total Program Element | 150.076 | 96.186 | 46.705 | - | 46.705 | 21.406 | 6.430 | 4.213 | 4.394 | Continuing | Continuing |
| 0439: <i>Standard Missile Improvement</i> | 28.908 | 26.054 | 17.348 | - | 17.348 | 4.155 | 0.250 | 0.253 | 0.248 | Continuing | Continuing |
| 3092: <i>Standard Missile 6 Program</i> | 120.371 | 70.132 | 29.357 | - | 29.357 | 17.251 | 6.180 | 3.960 | 4.146 | Continuing | Continuing |
| 9999: <i>Congressional Adds</i> | 0.797 | - | - | - | - | - | - | - | - | 0.000 | 0.797 |

A. Mission Description and Budget Item Justification

Standard Missile (SM) is the Navy's premier Anti-Air Warfare (AAW) missile, providing both area air defense for the fleet and self defense for individual AEGIS CGs and DDGs, as required by the Joint Theater Air Missile Defense (TAMD), Mission Need Statement (MNS), Defense Planning Guidance (DPG), Quadrennial Defense Review (QDR), and Ship Class AAW Self Defense Capstone Requirements Document. Agility, fuzing, and computer modifications to SM are in development to restore performance in the near term against a specific existing proliferating Anti-Ship Cruise Missile (ASCM) threat. Continuous analysis of missile capabilities vs. ever-evolving and proliferating aircraft and ASCM threats and long-range planning are required to keep pace with the threat.

In FY04 the STANDARD Missile 6 (SM-6) program was started to develop an advanced surface missile system with an active seeker and an extended range. The SM-6 missile system will leverage the Navy investment in the AEGIS Weapon System (AWS), Cooperative Engagement Capability (CEC), and airborne early warning systems, which will be upgraded in concert with missile development to support a fully integrated extended range detect-to-engage naval and joint integrated fire control capability. SM-6 is the enabler for Integrated Fire Control (IFC). Funding to support those upgrades are also included in this line. SM-6 has completed the ground based test program and has commenced the at-sea DT/OT flight test phase of the System Development & Demonstration (SD&D) effort. Together, this family of systems will provide the air superiority and the umbrella of protection against the full spectrum of projected future cruise missile (anti-ship and land attack) and manned aircraft threats discussed in the Joint TAMD MNS, DPG, QDR, IAMD Roadmap, IAMD Joint Integrating Concept, AIAMD Joint Operating Concept and TAMD Capstone Requirements Document.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604366N: <i>Standard Missile Improvements</i> |
|---|---|

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 167.200 | 96.186 | 57.474 | - | 57.474 |
| Current President's Budget | 150.076 | 96.186 | 46.705 | - | 46.705 |
| Total Adjustments | -17.124 | - | -10.769 | - | -10.769 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | -10.876 | - | | | |
| • SBIR/STTR Transfer | -5.815 | - | | | |
| • Program Adjustments | - | - | -10.426 | - | -10.426 |
| • Section 219 Reprogramming | -0.390 | - | - | - | - |
| • Rate/Misc Adjustments | - | - | -0.343 | - | -0.343 |
| • Congressional General Reductions Adjustments | -0.043 | - | - | - | - |

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 9999: *Congressional Adds*

Congressional Add: *Automated Missile Tracking*

| | FY 2010 | FY 2011 |
|---|----------------|----------------|
| | 0.797 | - |
| Congressional Add Subtotals for Project: 9999 | 0.797 | - |
| Congressional Add Totals for all Projects | 0.797 | - |

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604366N: <i>Standard Missile Improvements</i> | PROJECT 0439: <i>Standard Missile Improvement</i> |
|---|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 0439: <i>Standard Missile Improvement</i> | 28.908 | 26.054 | 17.348 | - | 17.348 | 4.155 | 0.250 | 0.253 | 0.248 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Modifications to SM-2 BLK IIIB are required for use on DDG-1000 class destroyers. The Joint Universal Waveform Link (JUWL) will be integrated with ESSM and Standard Missile to communicate with the DDG-1000 SPY-3 radar. SM-2 missile software will be updated with interrupted continuous wave illumination (ICWI) in order to allow operation with DDG-1000.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| Title: Standard Missile Improvement | 28.908 | 26.054 | 17.348 |
| Articles: | 0 | 0 | 0 |
| Description: DDG-1000 Pre Plan Product Improvement (P3I)Link Integration/Interrupted Continuous Wave Illuminator (ICWI) | | | |
| FY 2010 Accomplishments: ESSM conducted Preliminary Design Review (PDR), assembled Proof of Design (POD) assets, and conducted Design Verification Testing (DVT). SM-2 conducted System Requirements Review and System Functional Review, and began design development. ICWI development delayed 16 months as a result of FY10 reduction. | | | |
| FY 2011 Plans: ESSM conducts Critical Design Review (CDR), orders and assembles Production Representative Model (PRM) assets, and conducts qualification testing. SM-2 conducts PDR for JUWL only and orders POD hardware. | | | |
| FY 2012 Plans: ESSM completes qualification testing and Test Readiness Review, and completes the Inert Operational Missile (IOM) to aid in ship-to-missile integration. SM-2 conducts DVT on POD hardware, conducts PDR for ICWI, conducts CDR for JUWL only, and orders PRMs. | | | |
| Accomplishments/Planned Programs Subtotals | 28.908 | 26.054 | 17.348 |

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604366N: <i>Standard Missile Improvements</i> | PROJECT 0439: <i>Standard Missile Improvement</i> |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

Development is expected to conclude by FY16 for the X-band JUWL and ICWI. Production representative missiles will be built between FY11 and FY13 for 59 ESSM missiles and 26 SM missiles required to support Developmental Test & Operational Test (DT & OT) in FY13 through FY15 and continue follow-on ship integration and design update effort in FY16.

E. Performance Metrics

- ESSM initial engineering design for X-Band JUWL capability was completed and Engineering Development Models (EDMs) were built and tested.
- ESSM successfully completed its Preliminary Design Review in October 2009.
- ESSM will order material/parts and assemble Proof of Design units to conduct design verification tests.
- ESSM will conduct its Critical Design Review in third Quarter FY11.
- In October 2010 SM-2 begins full scale engineering development of X-Band JUWL capability and limited implementation of interrupted continuous wave illumination (ICWI) functionality.
- SM-2 PDR for JUWL is planned for third quarter FY11.
- Integration Testing and datalink qualification for JUWL testing 2012

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604366N: <i>Standard Missile Improvements</i> | PROJECT 0439: <i>Standard Missile Improvement</i> |
|---|---|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Design and Analysis1 | SS/CPAF | RAYTHEON:Tucson, AZ | 195.432 | 25.044 | Dec 2010 | 16.848 | Nov 2011 | - | | 16.848 | Continuing | Continuing | Continuing |
| Design and Analysis2 | C/CPFF | JHU/APL:Laurel, MD | 3.750 | - | | - | | - | | - | 0.000 | 3.750 | |
| Design and Analysis3 | MIPR | MIT/Lin Lab:Lexington, MA | 0.050 | - | | - | | - | | - | 0.000 | 0.050 | |
| Design and Analysis4 | WR | NSWC:Dahlgren | 787.314 | - | | - | | - | | - | 0.000 | 787.314 | |
| Design and Analysis5 | WR | NSWC:Indian Head | 0.940 | - | | - | | - | | - | 0.000 | 0.940 | |
| Design and Analysis6 | WR | NAWC:China Lake | 3.030 | - | | - | | - | | - | 0.000 | 3.030 | |
| Design and Analysis7 | Various | LOCKHEED MARTIN:Moorestown, NJ | 17.775 | - | | - | | - | | - | 0.000 | 17.775 | |
| Design and Analysis8 | WR | CNO:Washington, DC | 0.010 | - | | - | | - | | - | 0.000 | 0.010 | |
| Design and Analysis9 | WR | CMDP:Phoenix, AZ | 4.795 | - | | - | | - | | - | 0.000 | 4.795 | |
| Design and Analysis11 | WR | NSWC:Crane | 0.257 | - | | - | | - | | - | 0.000 | 0.257 | |
| Design and Analysis12 | WR | DOI&CNAP:Washington, DC | 0.487 | - | | - | | - | | - | 0.000 | 0.487 | |
| Design and Analysis13 | WR | COMPTEVFOR:Norfolk, VA | 0.100 | - | | - | | - | | - | 0.000 | 0.100 | |
| Design and Analysis14 | C/CPFF | LOCKHEED MARTIN:Moorestown, NJ | 2.000 | - | | - | | - | | - | 0.000 | 2.000 | |
| Design and Analysis15 | WR | CARDEROCK:Bethesda, MD | 0.050 | - | | - | | - | | - | 0.000 | 0.050 | |
| Design and Analysis16 | WR | NWAS:Corona | 0.325 | - | | - | | - | | - | 0.000 | 0.325 | |
| Design and Analysis17 | C/CPFF | CORVID: Mooresville, NC | 0.100 | - | | - | | - | | - | 0.000 | 0.100 | |
| Design and Analysis18 | C/CPFF | BAE:Rockville, MD | 0.101 | - | | - | | - | | - | 0.000 | 0.101 | |
| Design and Analysis19 | MIPR | MDA:Dahlgren, VA | 1.257 | - | | - | | - | | - | 0.000 | 1.257 | |
| Design and Analysis20 | WR | IWS3D:ARLINGTON, VA | - | 1.000 | Nov 2010 | 0.490 | Nov 2011 | - | | 0.490 | 0.000 | 1.490 | |
| Subtotal | | | 1,017.773 | 26.044 | | 17.338 | | - | | 17.338 | | | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604366N: <i>Standard Missile Improvements</i> | PROJECT 0439: <i>Standard Missile Improvement</i> |
|---|---|---|

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| DEVELOPMENTAL TEST & EVALUATION1 | WR | NSWC:Port Hueneme | 0.185 | - | | - | | - | | - | 0.000 | 0.185 | |
| DEVELOPMENTAL TEST & EVALUATION2 | WR | WSMR:New Mexico | 1.600 | - | | - | | - | | - | 0.000 | 1.600 | |
| DEVELOPMENTAL TEST & EVALUATION3 | WR | NAWC:Pt Mugu | 0.098 | - | | - | | - | | - | 0.000 | 0.098 | |
| DEVELOPMENTAL TEST & EVALUATION4 | WR | PMRF:Hawaii | 0.338 | - | | - | | - | | - | 0.000 | 0.338 | |
| DEVELOPMENTAL TEST & EVALUATION5 | WR | NSWC:PHD/Techrep | 0.567 | - | | - | | - | | - | 0.000 | 0.567 | |
| Subtotal | | | 2.788 | - | | - | | - | | - | 0.000 | 2.788 | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| CONTRACTOR ENGINEERING SUPPORT | C/CPAF | VARIOUS:VARIOUS | 1.993 | - | | - | | - | | - | 0.000 | 1.993 | |
| PROGRAM MANAGEMENT SUPPORT | C/CPAF | VARIOUS:VARIOUS | 2.294 | - | | - | | - | | - | 0.000 | 2.294 | |
| TRAVEL | Allot | IWS3:Arlington, VA | 0.056 | 0.010 | Feb 2011 | 0.010 | Nov 2011 | - | | 0.010 | 0.000 | 0.076 | |
| Subtotal | | | 4.343 | 0.010 | | 0.010 | | - | | 0.010 | 0.000 | 4.363 | |

| | Total Prior Years Cost | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|------------------------|-----------|--------|--------------|--------|-------------|---|---------------|------------------|------------|--------------------------|
| Project Cost Totals | | 1,024.904 | 26.054 | | 17.348 | | - | 17.348 | | | |

Remarks

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604366N: <i>Standard Missile Improvements</i> | PROJECT 3092: <i>Standard Missile 6 Program</i> |
|---|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 3092: <i>Standard Missile 6 Program</i> | 120.371 | 70.132 | 29.357 | - | 29.357 | 17.251 | 6.180 | 3.960 | 4.146 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

This program leverages existing missile technology and advanced missile technology. It aligns missile technology roadmaps across the Services (NAVSEA, NAVAIR, USAF, USMC and USA) and missile variants within the Services, taking advantage of the Navy's investment in the AEGIS Weapon System (AWS), CEC, and airborne early warning systems. This missile will provide an extended range engagement capability to provide the air superiority and the umbrella of protection for joint U.S. forces and allies against the full spectrum of manned-fixed and rotary-wing aircraft, unmanned aerial vehicles, and land attack and anti-ship cruise missiles in flight, thereby contributing to the continuous protection of forward deployed ground maneuver forces as well as theater rear assets as discussed in the Joint TAMD MNS, DPG, QDR, TAMD Capstone Requirements Document, Forward From the Sea, Joint Vision 2010/2020, the 2002/2003 Naval Transformational Roadmap and the Operational Requirements Document for SM-6 BLK 1.

This project addresses the Navy's requirement for an extended range area air defense missile with engage-on-remote and over-the-horizon capability as the enabler for USN and Joint integrated fire control. The SM-6 BLK 1 is the Navy's transformational enabler for the Sea Shield Operational Concept and enables the opportunity for Sea Basing and Sea Strike. This effort includes risk reduction, System Development and Demonstration (SD&D) design, insensitive munitions improvement, transition to production and operational test of the latest STANDARD Missile with the kinematic performance to defeat current and projected threats that possess low altitude, high altitude, and high velocity and maneuver characteristics at the max kinematic range of the missile. SM-6 is currently executing the DT/OT flight test phase of the SD&D effort.

The Joint Integrated Fire Enhancement funding is JROC directed for the demonstration of the Joint Land Attack Elevated Netted Sensor (JLENS) into the Naval Integrated Fire Control-Counter Air (NIFC-CA) kill chain; specifically, SM-6 integration with the JLENS and the AEGIS Weapon System (AWS). The funding identified in this budget is part of an integrated funding package that also includes funding for PEO IWS 1.0, PEO IWS 6.0, PEO IWS 7.0 and the Army's Cruise Missile Defense Systems JLENS Product Office. Additional funding is to support the integration, test, and analysis of the NIFC-CA test and evaluation strategy. Funds are also included for the transition of technology associated with the Missile Defense/Sea Shield Naval Interceptor Improvements (NII) Future Naval Capability (FNC) as formally signed in the NII Technology Transition Agreement (TTA) by PEO IWS 3, OPNAV N86, and the Office of Naval Research (PMR-51).

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| Title: Joint Integrated Fire Enhancement | 2.581 | 4.579 | 2.862 |
| Articles: | 0 | 0 | 0 |
| Description: Joint Integrated Fire Enhancement | | | |

UNCLASSIFIED

| | | | | |
|---|---|---|----------------|----------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604366N: <i>Standard Missile Improvements</i> | PROJECT 3092: <i>Standard Missile 6 Program</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| <p><i>FY 2010 Accomplishments:</i> Initial scenario and test planning development and integration and test efforts.</p> <p><i>FY 2011 Plans:</i> Scenario and test planning development and integration and test activities and end-to-end scenario test predictions.</p> <p><i>FY 2012 Plans:</i> Support Pair-wise testing between SM-6 and JLENS, conduct Captive Flight Test (CFT) with JLENS in Integrated Fire Control (IFC) Kill Chain, support SM-6: 6 degrees of freedom (DoF) accreditation, pre-flight analysis for JLENS IFC Live Fire Event and post-flight analysis for JLENS IFC Live Fire Event.</p> | | | | |
| <p><i>Title:</i> SM 6 Missile Development</p> <p align="right"><i>Articles:</i></p> <p><i>Description:</i> Missile Development</p> | | 99.294 0 | 52.017 0 | 14.189 0 |
| <p><i>FY 2010 Accomplishments:</i> GTV-3; DT/OT Flight Test execution at Pacific Missile Range Facility (PMRF); 2 successful flight tests.</p> <p><i>FY 2011 Plans:</i> DT/OT completion (3 flight tests planned) and 12 OT Flight Tests planned and analysis; Runs For Record M&S completed; DT/OT-III A FOT&E preparation. Advanced Capability Build 12 (ACB 12) and Combat Systems Engineering Development Site (CSEDS) integration and test; Captive Carry Flight Test.</p> <p><i>FY 2012 Plans:</i> Continue (ACB 12) and (CSEDS) integration and test; Continue Captive Carry Flight Test; Integrated Fire Control (IFC) integration and test; Complete DT/OT-III A.</p> | | | | |
| <p><i>Title:</i> Insensitive Munitions (IM)</p> <p align="right"><i>Articles:</i></p> | | 5.200 0 | 1.000 0 | 1.000 0 |
| <p><i>FY 2010 Accomplishments:</i> FY10: Perform (4) Slow Cook Off (SCO) tests: 1) Ballistic Barrier stops at first article, 2) MK-72 stops at proof/burst testing, 3) DTRM stops after pathfinder.</p> <p><i>FY 2011 Plans:</i> Continued testing and analysis.</p> <p><i>FY 2012 Plans:</i></p> | | | | |

UNCLASSIFIED

| | |
|--|----------------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | DATE: February 2011 |
|--|----------------------------|

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604366N: <i>Standard Missile Improvements</i> | PROJECT 3092: <i>Standard Missile 6 Program</i> |
|---|---|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|---|-------------|------------|------------|
| Follow-on Test analysis. | | | |
| Title: SM6 OT&E Support Articles: FY 2011 Plans: This effort will complete activities related to the SM-6 OT Flight Testing and analyzing test results to support COMPTEVFOR. Preparation for DT/OT-III A. FY 2012 Plans: This effort will complete activities related to SM-6 FOT&E (DT/OT-III A) testing and analysis. | - | 8.431 0 | 7.746 0 |
| Title: SM6/AWS & VLS Integration Description: SM6/AWS & VLS Integration FY 2010 Accomplishments: AEGIS Weapons System and MK 41 Vertical Launch Integration of SM-6 legacy. FY 2011 Plans: AEGIS Weapons System and MK 41 Vertical Launch Integration of SM-6 IFC mode to ACB12. FY 2012 Plans: AEGIS Weapons System and MK 41 Vertical Launch Integration of SM-6 IFC mode to ACB12. | 13.296 0 | 4.105 0 | 3.560 0 |
| Accomplishments/Planned Programs Subtotals | 120.371 | 70.132 | 29.357 |

| C. Other Program Funding Summary (\$ in Millions) | | | | | | | | | | | |
|--|---------|---------|-----------------|----------------|------------------|---------|---------|---------|---------|---------------------|------------|
| Line Item | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| • WPN 2234: <i>Standard Missile</i> | 90.734 | 285.977 | 420.324 | 0.000 | 420.324 | 542.742 | 581.361 | 654.383 | 731.175 | 2,078.650 | 5,503.817 |

D. Acquisition Strategy
 The Navy awarded a contract for SM-6 development, design, testing, production and support (including spares) to Raytheon using other than full and open competition pursuant to the authority of 10 U.S.C. 2304(c)(1).

 The active seeker guidance section for the SM-6 will be built in a joint production facility with the Advance Medium Range Air to Air Missile (AMRAAM).

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604366N: <i>Standard Missile Improvements</i> | PROJECT 3092: <i>Standard Missile 6 Program</i> |

The remainder of the SM-6 AUR components will be produced in existing production facilities that are currently producing other variants of the STANDARD missile.

No new facilities will be required for SM-6 production, and existing equipment will be used whenever possible.

No source other than Raytheon is capable of producing a shipboard BLK 1 missile within the Navy's schedule.

SM-6 Acquisition Strategy signed by OSD AT&L 3 March 2004.

E. Performance Metrics

Accomplishments

- SM-6 PABT WSESRB Executive Board - 12 May 09
- ASN (RDA) Gate 6 - 14 May 09
- ASN (RDA) OIPT - 2 Jun 09
- ASN (RDA) DAB - 29 Jul 09
- CTV-1A Flight Test - 28 Aug 09
- FY09 LRIP Lot Not to Exceed (NTE) Letter Contract Award - 4 Sep 09
- DT/OT SSSTRP - 7 Dec 09
- DT/OT WSESRB - 16 Dec 09
- GTV-3 Flight Test - 11 Jan 10
- DT/OT TRR - Feb 10
- OIPT (Cost Certification) - Mar 10
- DAB (Cost Certification) - Mar 10
- DT/OT Flight Tests @ PMRF - May 10
- FY09 LRIP NTE Definitization - 1 Jul 10
- FY10 LRIP Option I Contract Award - 1 Jul 10

SM-6 SD&D Contract SPI is currently at 0.992 and CPI is at 0.998

Upcoming Milestones

- DT/OT Flight Tests @ PMRF - Jan 11
- OT TRR - Jun 11
- OT Flight Tests at PMRF - Jul 11
- OT IIIA - Apr 12 - Dec 13
- Integrated Fire Control (IFC) Apr 12 - Mar 14
- LRIP Option II Contract Award - Mar 11

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604366N: <i>Standard Missile Improvements</i> | PROJECT 3092: <i>Standard Missile 6 Program</i> |
|---|---|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Design & Analysis | C/CPIF | RAYTHEON:Tucson, AZ | 633.500 | 14.730 | Feb 2011 | 11.937 | Dec 2011 | - | | 11.937 | 0.000 | 660.167 | |
| Design & Analysis | C/CPFF | JHU/APL:Laurel MD | 37.922 | 4.186 | Feb 2011 | 0.800 | Nov 2011 | - | | 0.800 | 0.000 | 42.908 | |
| Design & Analysis | MIPR | MIT/Lin Lab:Lexington, MA | 0.550 | - | | - | | - | | - | 0.000 | 0.550 | |
| Design & Analysis | WR | NAWC:China Lake | 3.207 | 0.078 | Nov 2010 | - | | - | | - | 0.000 | 3.285 | |
| Design & Analysis | WR | NSWC:Dahlgren | 8.837 | 1.008 | Nov 2010 | 0.075 | Nov 2011 | - | | 0.075 | 0.000 | 9.920 | |
| Design & Analysis | WR | NSWC:Indian Head | 3.261 | 0.030 | Nov 2010 | - | | - | | - | 0.000 | 3.291 | |
| Design & Analysis | WR | NSWC:PHD | 7.596 | 1.416 | Nov 2010 | - | | - | | - | 0.000 | 9.012 | |
| Design & Analysis | WR | NSWC:Crane | 1.041 | 0.150 | Nov 2010 | - | | - | | - | 0.000 | 1.191 | |
| Design & Analysis | MIPR | JSPO:Eglin AFB | 22.722 | 1.000 | Nov 2010 | - | | - | | - | 0.000 | 23.722 | |
| Design & Analysis | C/CPFF | LOCKHEED Martin:Moorestown, NJ | 5.794 | - | | - | | - | | - | 0.000 | 5.794 | |
| Design & Analysis | WR | NSWC:Corona | 15.938 | 0.621 | Nov 2010 | - | | - | | - | 0.000 | 16.559 | |
| Design & Analysis | Reqn | ONR:Arlington, VA | 5.150 | - | | - | | - | | - | 0.000 | 5.150 | |
| Design & Analysis | Reqn | NRL:Washington, DC | 0.090 | - | | - | | - | | - | 0.000 | 0.090 | |
| Design & Analysis | WR | COMPTEVFOR:Norfolk, VA | 1.905 | 0.250 | Nov 2010 | - | | - | | - | 0.000 | 2.155 | |
| Design & Analysis | WR | CARDEROCK:Philadelphia, PA | 2.349 | 0.200 | Nov 2010 | - | | - | | - | 0.000 | 2.549 | |
| Design & Analysis | WR | NSWC:Pt Mugu | 0.613 | - | | - | | - | | - | 0.000 | 0.613 | |
| Design & Analysis | C/CPFF | BAE:Rockville, MD | 6.446 | - | | - | | - | | - | 0.000 | 6.446 | |
| Design & Analysis | MIPR | ARMY:Redstone | 0.050 | - | | - | | - | | - | 0.000 | 0.050 | |
| Design & Analysis | WR | NAWCAD:Pax River, MD | 0.392 | - | | - | | - | | - | 0.000 | 0.392 | |
| Design & Analysis | C/CPFF | CORVID: Mooresville, NC | 2.500 | 0.250 | Mar 2011 | 0.250 | Dec 2011 | - | | 0.250 | 0.000 | 3.000 | |
| Design & Analysis | C/CPFF | RNB:Arlington, VA | 0.010 | - | | - | | - | | - | 0.000 | 0.010 | |
| Design & Analysis | WR | SPAWAR:Arlington, VA | 0.007 | - | | - | | - | | - | 0.000 | 0.007 | |
| Design & Analysis | WR | ARMY:Cecom | 0.066 | - | | - | | - | | - | 0.000 | 0.066 | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604366N: <i>Standard Missile Improvements</i> | PROJECT 3092: <i>Standard Missile 6 Program</i> |
|---|---|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Design & Analysis | C/FP | GENERAL DYNAMICS:Falls Church, VA | 1.660 | - | | - | | - | | - | 0.000 | 1.660 | |
| Design & Analysis | WR | VARIOUS:(IWS 1A) | 52.713 | 7.060 | Dec 2010 | 3.000 | Nov 2011 | - | | 3.000 | 0.000 | 62.773 | |
| Design & Analysis | WR | VARIOUS:(VLS) | 23.711 | 1.061 | Nov 2010 | 0.560 | Nov 2011 | - | | 0.560 | 0.000 | 25.332 | |
| Subtotal | | | 838.030 | 32.040 | | 16.622 | | - | | 16.622 | 0.000 | 886.692 | |

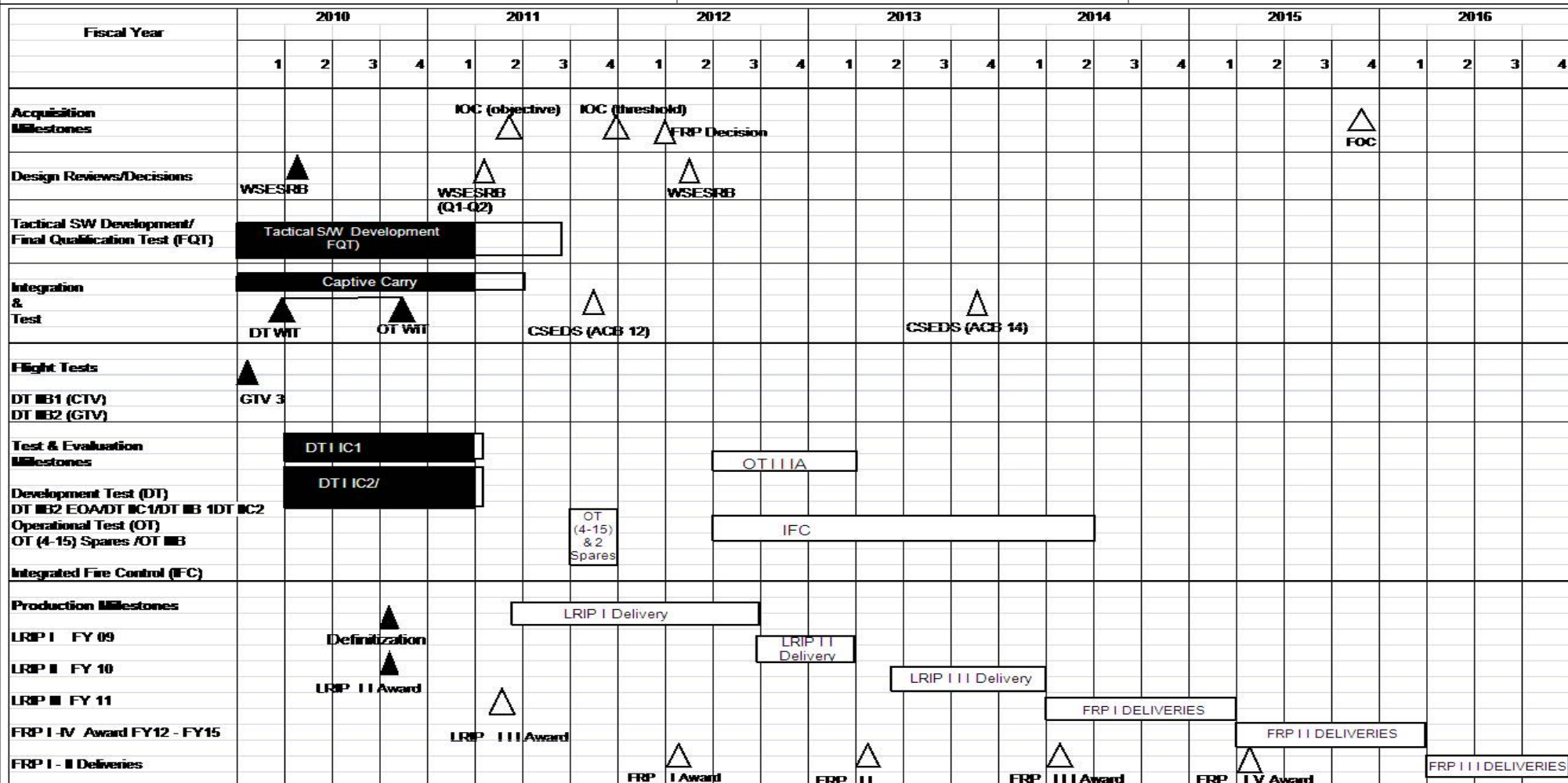
| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Developmental Test & Evaluation | WR | NSWC:Port Hueneme | 0.200 | 0.200 | Jan 2011 | 0.200 | Nov 2011 | - | | 0.200 | 0.000 | 0.600 | |
| Developmental Test & Evaluation | WR | NSWC:WSMR | 17.321 | 2.000 | Jan 2011 | 3.000 | Nov 2011 | - | | 3.000 | 0.000 | 22.321 | |
| Developmental Test & Evaluation | WR | PMRF:Hawaii | 23.089 | 15.000 | Jan 2011 | - | | - | | - | 0.000 | 38.089 | |
| Developmental Test & Evaluation | WR | NAWC:Pt Mugu | 0.769 | - | | - | | - | | - | 0.000 | 0.769 | |
| Developmental Test & Evaluation | C/CPAF | RAYTHEON:Tucson, AZ | - | 14.242 | Feb 2011 | 8.435 | Dec 2011 | - | | 8.435 | 0.000 | 22.677 | |
| Developmental Test & Evaluation | C/CPFF | JHU/APL:Laurel, MD | - | 1.250 | Feb 2011 | - | | - | | - | 0.000 | 1.250 | |
| Developmental Test & Evaluation | WR | NSWC:Corona | - | 1.750 | Jan 2011 | 0.800 | Nov 2011 | - | | 0.800 | 0.000 | 2.550 | |
| Developmental Test & Evaluation | WR | COMPTEVFOR:Norfolk | - | 0.250 | Jan 2011 | - | | - | | - | 0.000 | 0.250 | |
| Developmental Test & Evaluation | WR | NSWC:Dahlgren | - | 0.500 | Jan 2011 | - | | - | | - | 0.000 | 0.500 | |
| Developmental Test & Evaluation | WR | VLS:Arlington, VA | - | 0.750 | Jan 2011 | 0.300 | Nov 2011 | - | | 0.300 | 0.000 | 1.050 | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604366N: <i>Standard Missile Improvements</i> | PROJECT 3092: <i>Standard Missile 6 Program</i> |
|---|---|---|



UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604366N: <i>Standard Missile Improvements</i> | PROJECT 3092: <i>Standard Missile 6 Program</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 3092 | | | | |
| IOC/Deployment (Threshold) | 4 | 2011 | 1 | 2012 |
| IOC (Objective) | 2 | 2011 | 2 | 2011 |
| Full-Rate Production (FRP) Decision | 1 | 2012 | 2 | 2012 |
| Full Operational Capability (FOC) | 4 | 2015 | 4 | 2015 |
| WSESRB | 2 | 2010 | 2 | 2012 |
| Software Design/Final Qualification Test (FQT) | 1 | 2010 | 3 | 2011 |
| Captive Carry | 1 | 2010 | 2 | 2011 |
| CSEDS (ACB 12) (ACB 14) | 4 | 2011 | 4 | 2013 |
| DT WIT, OT WIT | 1 | 2010 | 4 | 2010 |
| Flight Test (GTV3) | 1 | 2010 | 1 | 2010 |
| Developmental Testing (DT-IIC1) | 2 | 2010 | 2 | 2011 |
| Developmental Testing (DT-IIC2/OT-[1-3]) | 2 | 2010 | 2 | 2011 |
| Operational Testing (OT-[4-15 & 2 Spares]) | 4 | 2011 | 4 | 2011 |
| OT IIIA | 3 | 2012 | 1 | 2013 |
| Integrated Fire Control (IFC) | 3 | 2012 | 2 | 2014 |
| Low-Rate Production I (Definitization) | 4 | 2010 | 4 | 2010 |
| Low-Rate Initial Production II (LRIP II Award) | 4 | 2010 | 4 | 2010 |
| Low-Rate Initial Production III (LRIP III Award) | 2 | 2011 | 2 | 2011 |
| Low-Rate Initial Production I Delivery | 2 | 2011 | 3 | 2012 |
| Low-Rate Initial Production II Delivery | 3 | 2012 | 1 | 2013 |
| Low-Rate Initial Production III Delivery | 2 | 2013 | 1 | 2014 |

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604366N: <i>Standard Missile Improvements</i> | PROJECT 3092: <i>Standard Missile 6 Program</i> |
|---|---|---|

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Full Rate Production (FRP) I-IV Award | 2 | 2012 | 2 | 2015 |
| Full Rate Production I (FRP) Deliveries | 2 | 2014 | 1 | 2015 |
| Full Rate Production II (FRP) Deliveries | 2 | 2015 | 1 | 2016 |
| Full Rate Production III (FRP) Deliveries | 2 | 2016 | 4 | 2016 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604366N: <i>Standard Missile Improvements</i> | PROJECT 9999: <i>Congressional Adds</i> |
|---|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 9999: <i>Congressional Adds</i> | 0.797 | - | - | - | - | - | - | - | - | 0.000 | 0.797 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Automated Missile Tracking will evaluate a multitude of Radio Frequency Identification (RFID) passive devices to ensure that safe implementation is possible aboard a US Navy combatant.

B. Accomplishments/Planned Programs (\$ in Millions)

| | FY 2010 | FY 2011 |
|---|---------|---------|
| Congressional Add: Automated Missile Tracking | 0.797 | - |
| FY 2010 Accomplishments: FY10: To provide maintenance history, inventory tracking and environmental exposure monitoring. | | |
| Congressional Adds Subtotals | 0.797 | - |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

Congressional Add.

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | | | | R-1 ITEM NOMENCLATURE | | | | | | | |
|---|----------------|----------------|---------------------|--|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | PE 0604373N: <i>Airborne Mine Countermeasures (AMCM)</i> | | | | | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| Total Program Element | 43.769 | 45.885 | 41.142 | - | 41.142 | 42.731 | 51.475 | 42.026 | 36.570 | Continuing | Continuing |
| 0529: <i>ABN Mine Hunt System</i> | 4.554 | 7.139 | 3.798 | - | 3.798 | 4.542 | 9.945 | 9.225 | 10.596 | Continuing | Continuing |
| 2047: <i>ALMDS</i> | 10.630 | 13.413 | 11.379 | - | 11.379 | 13.611 | 20.764 | 24.422 | 17.618 | Continuing | Continuing |
| 2427: <i>OASIS</i> | 9.411 | 6.029 | 8.160 | - | 8.160 | 3.057 | 2.251 | - | - | 0.000 | 28.908 |
| 2473: <i>Airborne Mine Neutralization System</i> | 14.000 | 16.597 | 15.153 | - | 15.153 | 16.061 | 12.831 | - | - | 0.000 | 74.642 |
| 4026: <i>Strat Into Medal, Tactics & Trng Organic Force</i> | 1.862 | 1.798 | 1.757 | - | 1.757 | 4.562 | 4.773 | 7.450 | 7.417 | Continuing | Continuing |
| 9179: <i>Surf Navy Integ Undersea Tactical Tech</i> | 0.922 | 0.909 | 0.895 | - | 0.895 | 0.898 | 0.911 | 0.929 | 0.939 | Continuing | Continuing |
| 9999: <i>Congressional Adds</i> | 2.390 | - | - | - | - | - | - | - | - | 0.000 | 2.390 |

A. Mission Description and Budget Item Justification

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Airborne Mine Countermeasures (AMCM) programs will deploy to the fleet as sensors integrated into the MH-53E and MH-60S platforms in order to provide Mine-Like Object Detection/classification/localization, Mine Identification, mine reacquisition and neutralization, and influence clearance capabilities. The "Next Generation" AMCM systems will provide this set of capabilities to the Littoral Combat Ship (LCS) Mine Warfare Mission Module. This capability will be of critical importance in littoral zones, confined straits, choke points, near surface and the Amphibious Objective Area (AOA). Some interest in the following areas has been expressed: search and rescue; surface fire support; ASW operations; protection/offense against small craft/vehicles; air to air operations; very shallow water MCM; swimmer defense and torpedo defense. Surface Navy Integrated Undersea Tactical Technology (SNIUTT) will be used to develop an AN/SQQ-32, AN/AQS-14, AN/AQS-24 and AN/AQS-20A sensor training modules and future Organic Airborne Mine Countermeasures (OAMCM) Sensor Training Modules.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604373N: <i>Airborne Mine Countermeasures (AMCM)</i> |
|---|--|

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 50.899 | 45.885 | 47.892 | - | 47.892 |
| Current President's Budget | 43.769 | 45.885 | 41.142 | - | 41.142 |
| Total Adjustments | -7.130 | - | -6.750 | - | -6.750 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | -5.249 | - | | | |
| • SBIR/STTR Transfer | -1.671 | - | | | |
| • Program Adjustments | - | - | -6.041 | - | -6.041 |
| • Section 219 Reprogramming | -0.210 | - | - | - | - |
| • Rate/Misc Adjustments | - | - | -0.709 | - | -0.709 |

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 9999: *Congressional Adds*

Congressional Add: *Common Air Mine Countermeasures Tow Cable*

Congressional Add Subtotals for Project: 9999

Congressional Add Totals for all Projects

| | FY 2010 | FY 2011 |
|--|----------------|----------------|
| | 2.390 | - |
| | 2.390 | - |
| | 2.390 | - |

Change Summary Explanation

Program Adjustments: FY12 -\$6,750 in Total Adjustments: for OASIS +\$2,500K, for AMNS +\$6,200K, RAMICS -\$13,100K, ALMDS -\$1,641K, and decrease for Misc. Adjustments -\$709K.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604373N: <i>Airborne Mine Countermeasures (AMCM)</i> | PROJECT 0529: <i>ABN Mine Hunt System</i> |
|---|--|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|-----------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 0529: <i>ABN Mine Hunt System</i> | 4.554 | 7.139 | 3.798 | - | 3.798 | 4.542 | 9.945 | 9.225 | 10.596 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

This project includes a sonar for mine detection, classification and identification. The Navy does not possess a capability to conduct minefield reconnaissance (mine density and location) at high area search rates. The AN/AQS-20A is being developed to address the emergent requirements for mine identification and to integrate AMCM systems with a MH-60S platform. The AN/AQS-20A will also be the mine hunting sonar component for the Remote Minehunting System (RMS). The AN/AQS-20A will be developed to meet the requirements of the Littoral Combat Ship (LCS) Mine Warfare Mission Module.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| <p>Title: Accomplishments/Effort/Subtotal Cost: Support</p> <p align="right">Articles:</p> <p>Description: RDT&E Articles Quantity</p> <p>FY 2010 Accomplishments:</p> <ul style="list-style-type: none"> - Began to develop Integrated Logistic Support (ILS) and supportability product and training materials - Continued Tactics, mission planning, and Post Mission Analysis (PMA) during AN/AQS-20A Developmental Testing phase - Continued to replenish deep minefield <p>FY 2011 Plans:</p> <ul style="list-style-type: none"> - Continue to develop ILS and supportability product and training materials - Continue to replenish deep minefield <p>FY 2012 Plans:</p> <ul style="list-style-type: none"> -Provide ongoing Technical Design Authority support to AN/AQS-20A. | 0.387 | 0.429 | 0.237 |
| | 0 | 0 | 0 |
| <p>Title: Accomplishments/Effort/Subtotal Cost: Test and Evaluation</p> <p align="right">Articles:</p> <p>Description: RDT&E Articles Quantity</p> <p>FY 2010 Accomplishments:</p> <ul style="list-style-type: none"> - Completed AN/AQS-20A Developmental Testing from the MH-60S. | 1.655 | 3.585 | 0.552 |
| | 0 | 0 | 0 |

UNCLASSIFIED

| | | | | |
|---|--|---|----------------|----------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604373N: <i>Airborne Mine Countermeasures (AMCM)</i> | PROJECT 0529: <i>ABN Mine Hunt System</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| <ul style="list-style-type: none"> - Conducted AN/AQS-20A Integration Testing. <p>FY 2011 Plans:</p> <ul style="list-style-type: none"> - Conduct Shore and Littoral Combat Ship (LCS) based AN/AQS-20A Operational Testing from the MH-60S. <p>FY 2012 Plans:</p> <ul style="list-style-type: none"> - Complete AN/AQS-20A support of Littoral Combat Ship (LCS) 2 Mine Countermeasures Mission Package Developmental Testing. | | | | |
| <p>Title: Accomplishments/Effort/Subtotal Cost: Management Services</p> <p align="right">Articles:</p> <p>Description: RDT&E Articles Quantity</p> <p>FY 2010 Accomplishments:</p> <ul style="list-style-type: none"> - Continued documentation development in support of Full Rate Production Decision Review (FRPDR) in FY11 - Continued to provide planning and management for the AN/AQS-20A program <p>FY 2011 Plans:</p> <ul style="list-style-type: none"> - Complete documentation development in support of Full Rate Production Decision Review (FRPDR) in FY11 - Continue to provide planning and management for the AN/AQS-20A program <p>FY 2012 Plans:</p> <ul style="list-style-type: none"> - Continue to provide planning and management for the AN/AQS-20A program | | 0.232 0 | 0.355 0 | 0.164 0 |
| <p>Title: Accomplishments/Effort/Subtotal Cost: Product Development</p> <p align="right">Articles:</p> <p>FY 2010 Accomplishments:</p> <ul style="list-style-type: none"> - Continued cable design improvement - Performed Environmental Data Collection analysis <p>FY 2011 Plans:</p> <ul style="list-style-type: none"> - Continue Environmental Data Collection analysis <p>FY 2012 Plans:</p> <ul style="list-style-type: none"> - Evaluate Forward Look Sonar (FLS) to improve detection and localization of volume and close-tethered mines. | | 2.280 0 | 2.770 0 | 2.845 0 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604373N: <i>Airborne Mine Countermeasures (AMCM)</i> | PROJECT 0529: <i>ABN Mine Hunt System</i> |
|---|--|---|

| | | | |
|--|----------------|----------------|----------------|
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
| - Review obsolescence issues that are candidates for P3I. Conduct technical performance analysis and real time performance evaluation. | | | |
| Accomplishments/Planned Programs Subtotals | 4.554 | 7.139 | 3.798 |

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> <u>Base</u> | <u>FY 2012</u> <u>OCO</u> | <u>FY 2012</u> <u>Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
|---|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| • OPN 4248: <i>Airborne Mine Countermeasure</i> | 14.520 | 0.000 | 8.920 | 0.000 | 8.920 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 23.440 |
| • OPN 1600: <i>LCS Mission Modules</i> | 21.780 | 22.650 | 8.920 | 0.000 | 8.920 | 15.800 | 24.294 | 49.800 | 50.647 | Continuing | Continuing |

D. Acquisition Strategy

AN/AQS-20A achieved Milestone C on 10 May 2005.

Sole Source to Raytheon for MH-60S systems. Low Rate Initial Production (LRIP) procurement began in FY05, FY06 and FY07. Full Rate Production Decision Review (FRPDR) is expected in August 2011 with competitive contract award January 2012.

E. Performance Metrics

Successfully complete Developmental Test/Operational Test.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604373N: <i>Airborne Mine Countermeasures (AMCM)</i> | PROJECT 0529: <i>ABN Mine Hunt System</i> |
|---|--|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Hardware/Software Development Q-20 on the H-53 | SS/CPIF | Raytheon:Portsmouth, RI | 31.120 | - | | - | | - | | - | 0.000 | 31.120 | |
| Hardware/Software Development Q-20A on the H-60 | C/CPFF | Raytheon:Portsmouth, RI | 60.150 | - | | - | | - | | - | 0.000 | 60.150 | |
| Hardware/Software Development | WR | NSWC, PC:Panama City FL | 11.808 | 2.770 | Nov 2010 | 2.845 | Nov 2011 | - | | 2.845 | 0.000 | 17.423 | |
| Hardware/Software Development | C/FP | Northrop Grumman:Melbourne, FL | 4.572 | - | | - | | - | | - | 0.000 | 4.572 | |
| Subtotal | | | 107.650 | 2.770 | | 2.845 | | - | | 2.845 | 0.000 | 113.265 | |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Engineering Services | WR | NSWC, PC:Panama City, FL | 30.641 | 0.377 | Nov 2010 | 0.208 | Nov 2011 | - | | 0.208 | Continuing | Continuing | Continuing |
| Engineering Services | C/CPFF | Raytheon:Portsmouth, RI | 3.686 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Engineering Services | Various | Various:Various | 54.018 | - | | - | | - | | - | 0.000 | 54.018 | |
| Engineering Services 2 | SS/CPIF | Raytheon:Portsmouth, RI | 3.464 | - | | - | | - | | - | 0.000 | 3.464 | |
| ILS Function | WR | NSWC, PC:Panama City FL | 6.287 | 0.052 | Nov 2010 | 0.029 | Nov 2011 | - | | 0.029 | Continuing | Continuing | Continuing |
| ILS Function | SS/CPIF | Raytheon:Portsmouth, RI | 1.546 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| ILS Function | Various | Various:Various | 0.981 | - | | - | | - | | - | 0.000 | 0.981 | |
| Subtotal | | | 100.623 | 0.429 | | 0.237 | | - | | 0.237 | | | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604373N: <i>Airborne Mine Countermeasures (AMCM)</i> | PROJECT 0529: <i>ABN Mine Hunt System</i> |
|---|--|---|

| Proj 0529 | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | | | | | |
|---|---------------------------------------|----|----|----|---------|----|-----------------------------|--------------------------------|---------|----|----|----|---------------------------------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|--|--|--|--|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | | | | |
| Acquisition Milestones | | | | | | | | IOC ◆ | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | FRP Decision ▲ | | | | | | | | | | | | | | | | | | | | | | | | |
| Development Phase | AN/AQS-20A P3I | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test & Evaluation Milestones | MH-60S DT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operational Test | | | | | | | Shore based MH-60S OT | LCS based MH-60S OT ▼ | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Milestones | Low Rate Initial Production I & II | | | | | | | | | | | | AN/AQS-20A Full Rate Production | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contract Award | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604373N - 0529

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604373N: <i>Airborne Mine Countermeasures (AMCM)</i> | PROJECT 0529: <i>ABN Mine Hunt System</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 0529 | | | | |
| Acquisition Milestones: IOC | 4 | 2011 | 4 | 2011 |
| Acquisition Milestones: Full Rate Production (FRP) Decision | 4 | 2011 | 4 | 2011 |
| Development Phase: AN/AQS-20A P3I | 1 | 2010 | 4 | 2016 |
| Test & Evaluation Milestones: AN/AQS-20A/MH-60S DT | 1 | 2010 | 4 | 2010 |
| Test & Evaluation Milestones: Operational Test: Shorebased AN/AQS-20A/MH-60S OT | 2 | 2011 | 3 | 2011 |
| Test & Evaluation Milestones: Operational Test: Littoral Combat Ship Based AN/AQS-20A/MH-60S OT | 4 | 2011 | 4 | 2011 |
| Production Milestones: Low Rate Intial Production I, II, & IIa | 1 | 2010 | 2 | 2011 |
| Production Milestones: AN/AQS-20A Full Rate Production | 2 | 2012 | 4 | 2016 |
| Production Milestones: Initial Delivery | 3 | 2014 | 3 | 2014 |
| Contract Award: FRP Contract Award | 2 | 2012 | 2 | 2012 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--------------------------------------|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604373N: <i>Airborne Mine Countermeasures (AMCM)</i> | PROJECT 2047: <i>ALMDS</i> |
|---|--|--------------------------------------|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|----------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 2047: <i>ALMDS</i> | 10.630 | 13.413 | 11.379 | - | 11.379 | 13.611 | 20.764 | 24.422 | 17.618 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

The Airborne Laser Mine Detection System (ALMDS), designation AN/AES-1, is a light detection and ranging (LIDAR) Airborne Mine Countermeasures (AMCM) high area coverage system that detects, classifies, and localizes floating and near-surface, moored sea mines. The system is deployed from the MH-60S helicopter and will provide Organic Airborne Mine Countermeasures (OAMCM) defense to the battle force. The system represents a capability that does not exist in the current Mine Countermeasures (MCM) inventory.

ALMDS first spiral development phase, very shallow water capability, begins in FY2016.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|---|-----------------------|-----------------------|-----------------------|
| <p>Title: Hardware and Software technology development and demonstration/Engineering Services:</p> <p align="right">Articles:</p> <p>Description: TDA Engineering/oversight/support of engineering efforts to meet baseline performance and full performance.</p> <p>FY 2010 Accomplishments: FY10 Implement Increment 1 Software fix, model and analyze fix.</p> <p>FY 2011 Plans: FY11 Implement Increment 1 Software fix, model and analyze fix.</p> <p>FY 2012 Plans: FY12 Increment II design and development. Initial Operation Capability (IOC) of Increment I to the fleet.</p> | <p>8.865</p> <p>0</p> | <p>3.054</p> <p>0</p> | <p>8.394</p> <p>0</p> |
| <p>Title: Integrated Logistics Support:</p> <p align="right">Articles:</p> <p>FY 2010 Accomplishments: All TDA support of ILS Program, to include operator training, NATOPS documentation updates, and tech/maintenance manual updates.</p> <p>FY 2011 Plans: Upgrades to all training and logistics documentation.</p> <p>FY 2012 Plans:</p> | <p>0.423</p> <p>0</p> | <p>0.673</p> <p>0</p> | <p>1.140</p> <p>0</p> |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--------------------------------------|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604373N: <i>Airborne Mine Countermeasures (AMCM)</i> | PROJECT 2047: <i>ALMDS</i> |
|---|--|--------------------------------------|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|--|------------|------------|------------|
| Provides initial operating capability for increment I. | | | |
| Title: Testing and Evaluation: FY 2011 Plans: Completion of DT-IIE and OT-IIA OPEVAL. | - | 7.957 0 | - |
| Title: Project Management: FY 2010 Accomplishments: TDA Program Management, Financial Management and Contractor support. FY 2011 Plans: TDA Program Management, Financial Management and Contractor support. FY 2012 Plans: TDA Program Management, Financial Management and Contractor support. | 1.342 0 | 1.729 0 | 1.845 0 |
| Accomplishments/Planned Programs Subtotals | 10.630 | 13.413 | 11.379 |

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> <u>Base</u> | <u>FY 2012</u> <u>OCO</u> | <u>FY 2012</u> <u>Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
|--|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| • OPN 4248: <i>Airborne MCM</i> | 22.300 | 14.800 | 0.000 | 0.000 | 0.000 | 31.276 | 7.951 | 0.000 | 0.000 | 0.000 | 76.327 |
| • OPN 1600: <i>LCS Mission Modules</i> | 7.421 | 7.100 | 0.000 | 0.000 | 0.000 | 7.819 | 7.951 | 16.173 | 16.448 | 0.000 | 62.912 |

D. Acquisition Strategy

The first LRIP lot of two units was awarded as a new sole-source contract to the SD&D contractor in FY05. This is a Fixed-Price Incentive (FPI) contract with cost and schedule incentives. The March 2006 Program Review decision memorandum approved the ALMDS Program for LRIP 2 procurement of two units for FY07 pending successful demonstration of Engineering Change Proposal (ECP) I performance during DT-IIID; DT-IIID Phase B was conducted on an SH-60F helicopter and DT-IIID phase C will be conducted on an MH-60S helicopter.

E. Performance Metrics

Successfully complete DT-IIE 3 and Operational Test (OT) and receive full rate production decision approval.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--------------------------------------|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604373N: <i>Airborne Mine Countermeasures (AMCM)</i> | PROJECT 2047: <i>ALMDS</i> |
|---|--|--------------------------------------|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Hardware/Software Development | WR | NSWC PC:Panama City FL | 0.942 | - | | - | | - | | - | 0.000 | 0.942 | |
| Hardware/Software Development | C/CPAF | Northrop Grumman:Melbourne, FL | 29.061 | - | | - | Oct 2011 | - | | - | 0.000 | 29.061 | |
| Hardware/Software Development | MIPR | Metron:VA | 1.083 | - | | - | | - | | - | 0.000 | 1.083 | |
| Hardware/Software Development | C/CPAF | SAIC:VA | 0.200 | - | | - | | - | | - | 0.000 | 0.200 | |
| Engineering Services1 | WR | NSWC PC:Panama City FL | 11.702 | 0.563 | Nov 2010 | 1.184 | Nov 2011 | - | | 1.184 | Continuing | Continuing | Continuing |
| Engineering Services2 | C/CPAF | Northrop Grumman:Melbourne, FI | 16.172 | 0.126 | Nov 2010 | 4.645 | Nov 2011 | - | | 4.645 | 0.000 | 20.943 | |
| Engineering Services3 | SS/CPIF | Various:Various | 12.915 | 2.203 | Nov 2010 | 1.725 | Nov 2011 | - | | 1.725 | Continuing | Continuing | Continuing |
| Engineering Services4 | MIPR | Various:Various | 3.922 | - | | - | Nov 2011 | - | | - | Continuing | Continuing | Continuing |
| Engineering Services5 | C/CPAF | Metron/Arete:Various | 0.862 | 0.162 | Nov 2010 | 0.840 | Nov 2011 | - | | 0.840 | 0.000 | 1.864 | |
| Subtotal | | | 76.859 | 3.054 | | 8.394 | | - | | 8.394 | | | |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| ILS Functions1 | WR | NSWC PC:Panama City FL | 2.421 | 0.673 | Nov 2010 | 0.600 | Nov 2011 | - | | 0.600 | Continuing | Continuing | Continuing |
| ILS Functions2 | WR | NSWC PC:Panama City FL | 5.725 | - | | 0.540 | Nov 2011 | - | | 0.540 | Continuing | Continuing | Continuing |
| ILS Functions3 | C/CPAF | Various/NRL Stennins:Various | 1.062 | - | | - | Nov 2011 | - | | - | 0.000 | 1.062 | |
| ILS Functions4 | WR | NSWC PC:Panama City FL | 0.300 | - | | - | | - | | - | 0.000 | 0.300 | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--------------------------------------|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604373N: <i>Airborne Mine Countermeasures (AMCM)</i> | PROJECT 2047: <i>ALMDS</i> |
|---|--|--------------------------------------|

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| Subtotal | | | 9.508 | 0.673 | | 1.140 | | - | | 1.140 | | | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| Testing and Evaluation1 | WR | NSWC PC:Panama City FL | 12.917 | 1.650 | Nov 2010 | - | | - | | - | Continuing | Continuing | Continuing |
| Testing and Evaluation2 | WR | NSWC PC:Panama City FL | 14.359 | 3.671 | Nov 2010 | - | | - | | - | Continuing | Continuing | Continuing |
| Testing and Evaluation | C/CPAF | Various:Various | 0.992 | 0.902 | Nov 2010 | - | | - | | - | 0.000 | 1.894 | |
| Testing and Evaluation | WR | NAWC AD PAX:Panama City FL | 0.376 | 1.734 | Nov 2010 | - | | - | | - | 0.000 | 2.110 | |
| Subtotal | | | 28.644 | 7.957 | | - | | - | | - | | | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| Management Support1 | Various | Various:Various | 2.043 | 0.050 | Nov 2010 | 0.050 | Nov 2011 | - | | 0.050 | 0.000 | 2.143 | |
| Management Support2 | WR | NSWC PC:Panama City FL | 3.588 | 1.679 | Nov 2010 | 1.620 | Nov 2011 | - | | 1.620 | 0.000 | 6.887 | |
| Management Support3 | WR | NSWC PC:Panama City FL | 1.559 | - | | - | | - | | - | 0.000 | 1.559 | |
| DAWDF | Various | Various:Various | 0.031 | - | | 0.175 | Nov 2011 | - | | 0.175 | 0.000 | 0.206 | |
| Subtotal | | | 7.221 | 1.729 | | 1.845 | | - | | 1.845 | 0.000 | 10.795 | |

| | Total Prior Years Cost | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| | | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| Project Cost Totals | | 122.232 | | 13.413 | | 11.379 | | - | | 11.379 | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy DATE: February 2011

| | | |
|---|--|--------------------------------------|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604373N: <i>Airborne Mine Countermeasures (AMCM)</i> | PROJECT 2047: <i>ALMDS</i> |
|---|--|--------------------------------------|

| | Total Prior Years Cost | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|--|------------------------|---------|--------------|-------------|---------------|------------------|------------|--------------------------|
|--|------------------------|---------|--------------|-------------|---------------|------------------|------------|--------------------------|

| | |
|----------------|--|
| Remarks | |
|----------------|--|

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--------------------------------------|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604373N: <i>Airborne Mine Countermeasures (AMCM)</i> | PROJECT 2047: <i>ALMDS</i> |
|---|--|--------------------------------------|

| Proj 2047 | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|---|-------------------------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|--------------------------|----|----|----|---------|----|----|----|---------|----|----|----|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Full Rate Production Decision Review | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Initial Operating Capability | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| System Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Increment I Development | Increment I Development | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Increment II Development | | | | | | | | | | | | | | | | | Increment II Development | | | | | | | | | | | |
| Test & Evaluation Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DT-III | DT-III | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DT/IT (TECHEVAL IT) | | | | | DT/IT | | | | | | | | | | | | | | | | | | | | | | | |
| DT-IIIF | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| OT-IIA OPERATIONAL TESTING (OPEVAL) | | | | | OT-IIA | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604373N - 2047

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604373N: *Airborne Mine Countermeasures (AMCM)*

PROJECT

2047: *ALMDS*

| Production Milestones | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | | | | | | | | | | | | | |
|-----------------------|---------|----|----|--------------|---------|----|----|--------------|---------|----|----|---------|---------|----|----|-------------|---------|----|----|--------|---------|----|----|-------------|---------|----|----|----|--|--|--|-------------|--|--|--|--|--|--|--|-------------|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | | | | | | | | | | | | |
| | | | | LRIP #3 ▲ | | | | LRIP #4 ▲ | | | | | | | | FRP #1 ▲ | | | | | | | | FRP #2 ▲ | | | | | | | | FRP #3 ▲ | | | | | | | | FRP #4 ▲ |
| Production Deliveries | | | | | | | | LRIP #2 | | | | LRIP #3 | | | | LRIP #4 | | | | FRP #1 | | | | | | | | | | | | FRP #2 | | | | | | | | |

2012PB - 0604373N - 2047

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--------------------------------------|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604373N: <i>Airborne Mine Countermeasures (AMCM)</i> | PROJECT 2047: <i>ALMDS</i> |
|---|--|--------------------------------------|

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| <i>Proj 2047</i> | | | | |
| Acquisition Milestones: Full Rate Production Decision Review: Full Rate Production Decision Review | 2 | 2012 | 2 | 2012 |
| Acquisition Milestones: Initial Operating Capability: Initial Operating Capability | 3 | 2012 | 3 | 2012 |
| Acquisition Milestones: Initial Operating Capability: Full Rate Production Decision | 1 | 2013 | 1 | 2013 |
| System Development: Increment I Development: Increment I Development | 1 | 2010 | 4 | 2013 |
| System Development: Increment II Development: Increment II Development | 1 | 2014 | 4 | 2016 |
| System Development: DT-IIE: DT-IIE | 3 | 2010 | 1 | 2011 |
| System Development: DT/IT (TECHEVAL IT): DT/IT (TECHEVAL IT) | 2 | 2011 | 3 | 2011 |
| System Development: OT-IIA OPERATIONAL TESTING (OPEVAL): OT-IIA OPERATIONAL TESTING (OPEVAL) | 3 | 2011 | 1 | 2012 |
| <i>Production Milestones</i> | | | | |
| LRIP 3 Units start | 4 | 2010 | 4 | 2010 |
| LRIP 4 Units start | 4 | 2011 | 4 | 2011 |
| Full Rate Production (FRP) Start (FRP 1) | 1 | 2013 | 1 | 2013 |
| Full Rate Production (FRP) Start (FRP 2) | 2 | 2014 | 2 | 2014 |
| Full Rate Production (FRP) Start (FRP 3) | 2 | 2015 | 2 | 2015 |
| Full Rate Production (FRP) Start (FRP 4) | 2 | 2016 | 2 | 2016 |
| Production Deliveries: LRIP 2 Units Deliveries | 2 | 2011 | 3 | 2011 |
| Production Deliveries: LRIP 3 Units Deliveries | 3 | 2012 | 4 | 2012 |
| Production Deliveries: LRIP 4 Units Deliveries | 3 | 2013 | 4 | 2013 |
| Production Deliveries: Full Rate Production Delivery Start (FRP 1) | 4 | 2014 | 1 | 2015 |
| Production Deliveries: Full Rate Production Delivery Start (FRP 2) | 1 | 2016 | 2 | 2016 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--------------------------------------|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604373N: <i>Airborne Mine Countermeasures (AMCM)</i> | PROJECT 2427: <i>OASIS</i> |
|---|--|--------------------------------------|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|----------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 2427: <i>OASIS</i> | 9.411 | 6.029 | 8.160 | - | 8.160 | 3.057 | 2.251 | - | - | 0.000 | 28.908 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

The Organic Airborne and Surface Influence Sweep (OASIS) system is a towed Minesweeping System to be deployed from specially configured MH-60S helicopters. The system provides a rapid response sweeping capability against bottom and moored, buried, acoustic and magnetic, or combination acoustic/magnetic influence mines in support of mine clearance operations where mine hunting is ineffective. The system consists of a towed body, tow and sweep cable systems, power inverter, power distribution unit and storage/shipping containers. System interfaces with the MH-60S helicopter via the carriage, stream, tow and recovery system and the common console. The program is currently in the SD&D phase where three Engineering Development Models (EDMs) are being developed for test and evaluation. Areas of interest for program enhancement include but are not limited to the following: A) Real-time Mission Planning B) Threat Emulation Jamming C) Improved Power Inverter D) Light weight winch drive-train E) Improved magnetic performance.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|--|-----------------------|-----------------------|-----------------------|
| <p>Title: Product Development:</p> <p style="text-align: right;">Articles:</p> <p>FY 2010 Accomplishments: Continue EDM development including BME design and Sweep Cable improvements.</p> <p>FY 2011 Plans: Prepare EDMs for Airworthiness, WSIT CT and OA Testing.</p> <p>FY 2012 Plans: Investigate and begin FY12 changes to EDM based upon testing results.</p> | <p>1.867</p> <p>0</p> | <p>0.441</p> <p>0</p> | <p>2.224</p> <p>0</p> |
| <p>Title: Engineering and ILS:</p> <p style="text-align: right;">Articles:</p> <p>FY 2010 Accomplishments: Office of Naval Research program support Engineering and ILS BME Design and Development, drawing updates</p> <p>FY 2011 Plans: Office of Naval Research program support Engineering and ILS support for CT and preparation for OA Testing.</p> <p>FY 2012 Plans:</p> | <p>6.243</p> <p>0</p> | <p>3.050</p> <p>0</p> | <p>2.900</p> <p>0</p> |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--------------------------------------|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604373N: <i>Airborne Mine Countermeasures (AMCM)</i> | PROJECT 2427: <i>OASIS</i> |
|---|--|--------------------------------------|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|---|----------------|----------------|----------------|
| Support OA and DT events. | | | |
| Title: Testing: <div style="text-align: right;">Articles:</div> | 0.839 0 | 2.093 0 | 2.596 0 |
| FY 2010 Accomplishments: Prepare for Airworthiness and CT. FY 2011 Plans: Conduct Training for WSIT CT and begin OA. FY 2012 Plans: Conduct OA and DT events. | | | |
| Title: Program Management <div style="text-align: right;">Articles:</div> | 0.462 0 | 0.445 0 | 0.440 0 |
| FY 2010 Accomplishments: Monitor contractor progress with regard to schedule, cost, and technical status management Monitor contractor CDRL and other deliverables FY 2011 Plans: Monitor contractor progress with regard to schedule, cost, and technical status management Monitor contractor CDRL and other deliverables FY 2012 Plans: Monitor contractor progress with regard to schedule, cost, and technical status management and prepare for FRP decision. | | | |
| Accomplishments/Planned Programs Subtotals | 9.411 | 6.029 | 8.160 |

| C. Other Program Funding Summary (\$ in Millions) | | | | | | | | | | | |
|--|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> <u>Base</u> | <u>FY 2012</u> <u>OCO</u> | <u>FY 2012</u> <u>Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
| • OPN 4248: <i>Airborne MCM - OASIS</i> | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 9.200 | 11.300 | 19.400 | 8.500 | 5.268 | 53.668 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--------------------------------------|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604373N: <i>Airborne Mine Countermeasures (AMCM)</i> | PROJECT 2427: <i>OASIS</i> |
|---|--|--------------------------------------|

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> <u>Base</u> | <u>FY 2012</u> <u>OCO</u> | <u>FY 2012</u> <u>Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
|--|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| • OPN 1600: <i>LCS Mission Modules</i> | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 2.548 | 2.583 | 5.402 | 5.166 | 81.715 | 97.414 |

D. Acquisition Strategy

After Milestone B review in FY02, a SD&D contract was awarded. In FY07, the program successfully completed MH-53 CT and Tower Testing. MH-60 CT is planned for FY11. DT in FY12 and OPEVAL in FY13.

E. Performance Metrics

Successfully complete contractor test on the Body Mounted Electrode (BME) design and receive Milestone C approval.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--------------------------------------|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604373N: <i>Airborne Mine Countermeasures (AMCM)</i> | PROJECT 2427: <i>OASIS</i> |
|---|--|--------------------------------------|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Hardware/Software Development | C/CPFF | ITT Corp.:Panama City FI | 2.249 | 0.030 | Nov 2010 | 0.800 | Nov 2011 | - | | 0.800 | 0.000 | 3.079 | |
| Hardware/Software Development for BME | C/CPFF | EDO Corp.:NY | 12.689 | - | | - | | - | | - | 0.000 | 12.689 | |
| Hardware/Software Development | SS/CPFF | Aeptec Microsystems Inc.:AZ | 5.898 | - | | - | | - | | - | 0.000 | 5.898 | |
| Hardware/Software Development | WR | NSWC PC:Panama City FI | 0.765 | 0.411 | Nov 2010 | 1.424 | Nov 2011 | - | | 1.424 | 1.473 | 4.073 | |
| Subtotal | | | 21.601 | 0.441 | | 2.224 | | - | | 2.224 | 1.473 | 25.739 | |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Engineering Services | WR | NUWC Keyport:Keyport, WA | 0.659 | - | | - | | - | | - | 0.000 | 0.659 | |
| Engineering Services | C/CPFF | EDO/ITT Corp.:Panama City FI | 16.464 | 0.811 | Nov 2010 | 0.350 | Nov 2011 | - | | 0.350 | 0.000 | 17.625 | |
| Engineering Services | WR | NSWC PC:Panama City FI | 17.787 | 1.123 | Nov 2010 | - | | - | | - | 0.000 | 18.910 | |
| Engineering Services | WR | NSWC Carderock MD:Bethesda, MD | 0.300 | - | | 1.363 | Nov 2011 | - | | 1.363 | 0.000 | 1.663 | |
| Engineer Services/ILS | WR | Various:Various | 0.548 | - | | - | | - | | - | 0.000 | 0.548 | |
| Engineering Services | WR | ONR:Wash DC | 9.520 | 0.440 | Nov 2010 | 0.437 | Nov 2011 | - | | 0.437 | 0.499 | 10.896 | |
| ILS Functions | C/CPFF | EDO Corp.:NY | 4.725 | 1.047 | Nov 2010 | 0.500 | Nov 2011 | - | | 0.500 | 0.195 | 6.467 | |
| ILS Functions | WR | NSWC, PC:Panama City FI | 3.186 | 0.427 | Nov 2010 | 0.250 | Nov 2011 | - | | 0.250 | 0.412 | 4.275 | |
| Subtotal | | | 53.189 | 3.848 | | 2.900 | | - | | 2.900 | 1.106 | 61.043 | |

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604373N: *Airborne Mine Countermeasures (AMCM)*

PROJECT

2427: *OASIS*

| Proj 2427 | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|--------------------------------------|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Initial Operational Capability (IOC) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Milestone C | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Post Milestone PRR | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| System Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Body Mounted Electrode (BME Design) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test & Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CT MH-60s Testing | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Airworthiness MH-60 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| OA MH-60 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DT Testing | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| OPEVAL | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LRIP Contract Award | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FRP Contract Award | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604373N - 2427

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|--------------------------------------|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604373N: <i>Airborne Mine Countermeasures (AMCM)</i> | PROJECT 2427: <i>OASIS</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 2427 | | | | |
| Acquisition Milestones: Initial Operational Capability (IOC): Initial Operational Capability (IOC) | 4 | 2013 | 4 | 2013 |
| Acquisition Milestones: Milestone C: Milestone C | 2 | 2012 | 2 | 2012 |
| Acquisition Milestones: Post Milestone PRR: Post Milestone PRR | 3 | 2012 | 3 | 2012 |
| System Development: Body Mounted Electrode (BME Design): Body Mounted Electrode (BME Design) | 1 | 2010 | 4 | 2012 |
| Test & Evaluation: CT MH-60s Testing: CT MH-60s Testing | 4 | 2011 | 4 | 2011 |
| Test & Evaluation: Airworthiness MH-60: AW MH-60 | 2 | 2011 | 4 | 2011 |
| Test & Evaluation: OA MH-60: DT OA MH-60 | 1 | 2012 | 3 | 2012 |
| Test & Evaluation: DT Testing: DT Testing | 4 | 2012 | 4 | 2012 |
| Test & Evaluation: OPEVAL: OPEVAL | 1 | 2013 | 2 | 2013 |
| Test & Evaluation: LRIP Contract Award: LRIP Contract Award | 2 | 2013 | 2 | 2013 |
| FRP Contract Award: FRP Contract Award | 2 | 2014 | 2 | 2014 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604373N: <i>Airborne Mine Countermeasures (AMCM)</i> | PROJECT 2473: <i>Airborne Mine Neutralization System</i> |
|---|--|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 2473: <i>Airborne Mine Neutralization System</i> | 14.000 | 16.597 | 15.153 | - | 15.153 | 16.061 | 12.831 | - | - | 0.000 | 74.642 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

AMNS will provide the MH-60S helicopter with the capability to neutralize bottom, near surface and moored mines using an expendable mine neutralization device. The AMNS is being tested on the MH-53E helicopter to prove out the neutralization effectiveness. The system will be deployed from the MH-60S helicopter as part of the Littoral Combat Ship (LCS) Mine Warfare Mission Module. This capability will be of critical importance in littoral zones, confined straits, choke points, near surface and the Amphibious Objective Area (AOA). Development of an Untethered Launch and Handling System (LHS) for AMNS will occur in FY12-FY14.

The AN/AWS-2 Rapid Airborne Mine Clearance System (RAMICS) MIW program began Concept & Technology Development phase in FY00. RAMICS will satisfy the U.S. Navy's need for a rapid mine clearance capability required to neutralize near-surface and surface (floating) moored sea mines. RAMICS will use geo-location data provided by other mine hunting and mine reconnaissance systems, use a laser system to reacquire targets and to direct the fire of supercavitating projectiles that will render the mines inoperable. RAMICS includes the following major subsystems:

- (a) Gun Subsystem (including gun and turret)
- (b) Munition Subsystem - MK258 Mod 1 Armor Piercing, Fin Stabilized, Discarding Sabot-Tracer (APFSDS-T)
- (c) Targeting Sensor Subsystem.
- (d) Fire Control Subsystem.

The system will be deployed from the MH-60S helicopter and will provide organic airborne mine defense as part of Littoral Combat Ship (LCS) Mine Warfare Mission Module. This capability will be of critical importance in littoral zones, confined straits, choke points, and the Amphibious Objective Area (AOA).

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|--|---------|---------|---------|
| Title: AMNS: Support | 2.515 | 1.986 | 2.661 |
| Articles: | 0 | 0 | 0 |
| FY 2010 Accomplishments: Develop logistics products, including training materials and interactive technical manual. Provide engineering support, including review for product development and integration. | | | |
| FY 2011 Plans: | | | |

UNCLASSIFIED

| | | | | |
|---|--|--|----------------|----------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604373N: <i>Airborne Mine Countermeasures (AMCM)</i> | PROJECT 2473: <i>Airborne Mine Neutralization System</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| Develop logistics products, including training materials and interactive technical manual. Provide engineering support, including review for product development and integration. FY 2012 Plans: Develop logistics products, including training materials and interactive technical manual. Provide engineering support, including review for product development and integration. Develop Logistics products for untethered Launch and Handling System (LHS). Provide engineering support for untethered LHS. | | | | |
| Title: AMNS: Test and Evaluation FY 2010 Accomplishments: Start MH-60S TECHEVAL. FY 2011 Plans: Complete MH-60s TECHEVAL. Start MH-60s OPEVAL. FY 2012 Plans: Complete MH-60s OPEVAL. Support testing on untethered LHS. | | Articles: 4.621 0 | 4.038 0 | 3.150 0 |
| Title: AMNS: Management Services FY 2010 Accomplishments: Provide Program Management support and travel for AMNS. FY 2011 Plans: Provide Program Management support and travel for AMNS. FY 2012 Plans: Provide program management support and travel for AMNS and untethered LHS. | | Articles: 0.229 0 | 0.280 0 | 0.311 0 |
| Title: AMNS: Product Development FY 2012 Plans: Develop hardware and software for near surface neutralization capability and untethered LHS. | | Articles: - | - | 9.031 0 |
| Title: RAMICS: Hardware/Software Development | | Articles: 3.990 0 | 5.925 0 | - |

UNCLASSIFIED

UNCLASSIFIED

| | | | | |
|--|--|--|--|--|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | R-1 ITEM NOMENCLATURE PE 0604373N: <i>Airborne Mine Countermeasures (AMCM)</i> | | PROJECT 2473: <i>Airborne Mine Neutralization System</i> |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | | | FY 2010 |
| Description: Hardware and Software technology development and demonstration/Engineering Services. | | | | FY 2011 |
| FY 2010 Accomplishments: Continue engineering associated development and demonstration/Engineering Services | | | | FY 2012 |
| FY 2011 Plans: Continue engineering and software development associated with Gun Qualification test, Pod Data Collection Testing and the near surface neutralization capability. | | | | |
| Title: RAMICS: ILS and Engineering | | | | - |
| Description: Integrated Logistics Support | | | | 0.119 |
| FY 2011 Plans: TDA support of ILS Program, to include training, documentation updates, and tech/maintenance updates. | | | | 0 |
| Title: RAMICS: Engineering and Test Events | | | | - |
| Description: Test and Evaluation of Gun Fire on the MH-60S and impacts on the airframe. | | | | 1.981 |
| FY 2010 Accomplishments: Conduct Initial Gun Fire and Static LIDAR Data Collection. | | | | 1.372 |
| FY 2011 Plans: Final Engineering analysis of MH-60S Helicopter impact from Gun Fire Test. NSWCC Crane, NSWCC PC and NAVAIR Structures engineers coordination and analysis. | | | | 0 |
| Title: RAMICS: Program Management | | | | 0 |
| Description: Project Management | | | | 2.877 |
| FY 2010 Accomplishments: TDA Program Management, Financial Management, Contract Management, Test and Contractor Support | | | | 0 |
| FY 2011 Plans: | | | | - |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604373N: <i>Airborne Mine Countermeasures (AMCM)</i> | PROJECT 2473: <i>Airborne Mine Neutralization System</i> |
|---|--|--|

| | | | |
|--|----------------|----------------|----------------|
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
| TDA Program Management, Financial Management, Contract Management, Test and Contractor Support | | | |
| Accomplishments/Planned Programs Subtotals | 14.000 | 16.597 | 15.153 |

C. Other Program Funding Summary (\$ in Millions)

| Line Item | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|---------|---------|-----------------|----------------|------------------|---------|---------|---------|---------|---------------------|------------|
| • OPN 4248 : <i>Airborne MCM - AMNS</i> | 7.300 | 11.100 | 3.100 | 0.000 | 3.100 | 2.800 | 3.000 | 0.000 | 0.000 | 0.000 | 27.300 |
| • WPN 4225/1: <i>Airborne MCM - AMNS</i> | 12.271 | 18.936 | 12.203 | 0.000 | 12.203 | 16.918 | 26.374 | 27.744 | 23.387 | 0.000 | 137.833 |
| • OPN 1600: <i>LCS Mission Modules</i> | 0.000 | 2.822 | 3.060 | 0.000 | 3.060 | 2.800 | 3.000 | 6.000 | 3.051 | 0.000 | 20.733 |
| • WPN 4225/2: <i>Airborne MCM - RAMICS</i> | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| • PANMC 0196: <i>MK 258 MOD - RAMICS</i> | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| • WPN 4221: <i>LCS MODULE WEAPONS-RAMICS</i> | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

D. Acquisition Strategy

AMNS: The Navy awarded six (6) LRIP's to Raytheon in September 2010. Following successful completion of Developmental Testing on MH-60S, the Navy will award four (4) additional LRIP units to Raytheon.

Following a successful OT on an MH-60S, FRP is planned for FY12. The Navy has awarded a sole source contract to BAE for Common Neutralizer procurements.

RAMICS: Achieved MS B in July 2002 and awarded SD&D contract in August 2002 based on a full and open competition. RAMICS LRIP Award will follow MS C and an FRP Award will follow FRPDR.

E. Performance Metrics

Successfully complete Operational Test (OT) and receive Full Rate Production Decision approval.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604373N: <i>Airborne Mine Countermeasures (AMCM)</i> | PROJECT 2473: <i>Airborne Mine Neutralization System</i> |
|---|--|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Hardware/Software Development1 | SS/CPHF | Lockheed Martin:Syracuse, NY | 3.331 | - | | - | | - | | - | 0.000 | 3.331 | |
| Hardware/Software Development2 | C/CPAF | Various:Various | 3.359 | - | | - | | - | | - | 0.000 | 3.359 | |
| Hardware/Software Development3 | WR | NSWC PC:Panama City FL | 2.275 | - | | 1.898 | Nov 2011 | - | | 1.898 | 0.462 | 4.635 | |
| Hardware/Software Development4 | C/CPAF | Raytheon:Portsmouth RI | 16.354 | - | | 4.053 | Nov 2011 | - | | 4.053 | 2.061 | 22.468 | |
| Untethered Hardware Development | C/CPAF | TBD:TBD | - | - | | 2.587 | Jan 2012 | - | | 2.587 | 5.366 | 7.953 | |
| Untethered Hardware Development | WR | NSWC PC:Panama City FL | - | - | | 0.493 | Jan 2012 | - | | 0.493 | 1.076 | 1.569 | |
| Hardware/Software Development5 | C/CPFF | Northrop Grumman, FL:Melbourne, FL | 34.882 | 4.780 | Nov 2010 | - | | - | | - | 1.000 | 40.662 | |
| Hardware/Software Development6 | WR | NSWC PC:Panama City FL | 2.892 | 0.012 | Nov 2010 | - | | - | | - | 1.010 | 3.914 | |
| Hardware/Software Development7 | WR | NSWC Crane:Crane IN | 2.470 | - | | - | | - | | - | 0.000 | 2.470 | |
| Subtotal | | | 65.563 | 4.792 | | 9.031 | | - | | 9.031 | 10.975 | 90.361 | |

Remarks
BOTH AMNS and RAMICS

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Engineering Services | WR | NSWC:Panama City FL | 22.122 | 0.920 | Nov 2010 | 0.750 | Nov 2011 | - | | 0.750 | 0.643 | 24.435 | |
| Engineering Services | C/CPHF | Raytheon:Portsmouth RI | 10.367 | 0.416 | Nov 2010 | - | | - | | - | 0.472 | 11.255 | |
| Untethered Engineering Services | C/CPHF | TBD:TBD | - | - | | 0.507 | Jan 2012 | - | | 0.507 | 0.995 | 1.502 | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604373N: <i>Airborne Mine Countermeasures (AMCM)</i> | PROJECT 2473: <i>Airborne Mine Neutralization System</i> |
|---|--|--|

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Untethered Engineering Services | WR | NSWC PC:Panama City FL | - | - | | 0.675 | Jan 2012 | - | | 0.675 | 1.499 | 2.174 | |
| ILS Functions1 | WR | NSWC PC:Panama City FL | 4.991 | - | | 0.250 | Nov 2011 | - | | 0.250 | 0.392 | 5.633 | |
| ILS Functions2 | SS/CPFF | Lockheed:Syracuse NY | 0.227 | - | | - | | - | | - | 0.000 | 0.227 | |
| ILS Functions3 | C/CPIF | Raytheon,:Portsmouth RI | 2.196 | - | | - | | - | | - | 0.112 | 2.308 | |
| Untethered ILS Functions | C/CPIF | TBD:TBD | - | - | | 0.192 | Jan 2012 | - | | 0.192 | 0.229 | 0.421 | |
| Untethered ILS Functions | WR | NSWC PC:Panama City FL | - | - | | 0.287 | Jan 2012 | - | | 0.287 | 1.052 | 1.339 | |
| Engineering Services | C/CPIF | Northrop Grumman:Melbourne FL | 14.801 | 1.090 | Nov 2010 | - | | - | | - | 1.500 | 17.391 | |
| Engineering Services | WR | NSWC PC:Panama City FL | 9.977 | 0.043 | Nov 2010 | - | | - | | - | 1.500 | 11.520 | |
| Engineering Services | WR | NSWC, Crane:Crane, IN | 2.777 | 0.650 | Dec 2010 | - | | - | | - | 0.100 | 3.527 | |
| Engineering Services | C/CPAF | Various:Various | 5.857 | - | | - | | - | | - | 0.100 | 5.957 | |
| ILS Functions4 | SS/CPIF | Northrop Grumman:Melbourne FL | 6.370 | - | | - | | - | | - | 0.500 | 6.870 | |
| ILS Functions5 | WR | NSWC PC:Panama City FL | 1.603 | 0.119 | Nov 2010 | - | | - | | - | 1.000 | 2.722 | |
| ILS Functions6 | C/CPAF | Various:Various | 2.255 | - | | - | | - | | - | 0.100 | 2.355 | |
| Subtotal | | | 83.543 | 3.238 | | 2.661 | | - | | 2.661 | 10.194 | 99.636 | |

Remarks
BOTH AMNS and RAMICS

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604373N: <i>Airborne Mine Countermeasures (AMCM)</i> | PROJECT 2473: <i>Airborne Mine Neutralization System</i> |
|---|--|--|

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Development Test & Evaluation | Various | Various:Various | 0.300 | - | | - | | - | | - | 0.000 | 0.300 | |
| Development Test & Evaluation | WR | NSWC, PC:Panama City FL | 26.683 | 2.950 | Nov 2010 | - | | - | | - | 0.000 | 29.633 | |
| Development Test & Evaluation | SS/CPFF | Lockheed Martin:Syracuse, NY | 1.254 | - | | - | | - | | - | 0.000 | 1.254 | |
| Development Test & Evaluation | C/CPIF | Raytheon:Portsmouth RI | 7.831 | 0.588 | Nov 2010 | - | | - | | - | 0.000 | 8.419 | |
| Operational Test & Evaluation | WR | COTF:Norfolk VA | 1.388 | 0.500 | Nov 2010 | 2.000 | Nov 2011 | - | | 2.000 | 0.000 | 3.888 | |
| Operational Test & Evaluation | SS/CPFF | Lockheed:Syracuse NY | 0.767 | - | | - | | - | | - | 0.000 | 0.767 | |
| Test Assets | C/CPIF | Raytheon:Portsmouth RI | 3.065 | - | | - | | - | | - | 0.000 | 3.065 | |
| Untethered Test and Evaluation | C/CPIF | TBD:TBD | - | - | | 0.383 | Jan 2012 | - | | 0.383 | 0.559 | 0.942 | |
| Untethered Test and Evaluation | WR | NSWC PC:Panama City FL | - | - | | 0.767 | Jan 2012 | - | | 0.767 | 2.798 | 3.565 | |
| Test & Evaluation | C/CPIF | Northrop Grumman:Melbourne FL | 14.051 | 0.726 | Dec 2010 | - | | - | | - | 0.750 | 15.527 | |
| Test & Evaluation | WR | NSWC PC:Panama City FL | 7.926 | 0.646 | Dec 2010 | - | | - | | - | 0.750 | 9.322 | |
| Test & Evaluation | WR | NSWC, Crane:Crane IN | 1.230 | - | | - | | - | | - | 1.000 | 2.230 | |
| Test & Evaluation | C/CPAF | Various:Various | 7.360 | - | | - | | - | | - | 0.750 | 8.110 | |
| Test & Evaluation | C/FFP | QinetiQ,:UK | - | - | | - | | - | | - | 0.000 | 0.000 | |
| Subtotal | | | 71.855 | 5.410 | | 3.150 | | - | | 3.150 | 6.607 | 87.022 | |

Remarks
BOTH AMNS and RAMICS

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604373N: <i>Airborne Mine Countermeasures (AMCM)</i> | PROJECT 2473: <i>Airborne Mine Neutralization System</i> |
|---|--|--|

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Program Management Support | C/CPFF | Various:VAR | 5.049 | 0.240 | Nov 2010 | 0.100 | Nov 2011 | - | | 0.100 | 0.158 | 5.547 | |
| Travel | Various | NAVSEA:PD | 0.424 | 0.040 | Nov 2010 | 0.020 | Nov 2011 | - | | 0.020 | 0.040 | 0.524 | |
| Untethered Program Management | C/CPIF | TBD:VAR | - | - | | 0.191 | Jan 2012 | - | | 0.191 | 0.368 | 0.559 | |
| Management Support | C/CPIF | Various:Various | 6.002 | 2.877 | Nov 2010 | - | | - | | - | 0.800 | 9.679 | |
| Management Support | Various | Travel:PD | 0.340 | - | | - | | - | | - | 0.100 | 0.440 | |
| DAWDF | Various | Various:Various | 0.098 | - | | - | | - | | - | 0.000 | 0.098 | |
| Subtotal | | | 11.913 | 3.157 | | 0.311 | | - | | 0.311 | 1.466 | 16.847 | |

Remarks
BOTH AMNS and RAMICS

| | Total Prior Years Cost | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|-------------------------------|----------------|--|---------------------|--|--------------------|--|----------------------|-------------------------|-------------------|---------------------------------|
| Project Cost Totals | 232.874 | 16.597 | | 15.153 | | - | | 15.153 | 29.242 | 293.866 | |

Remarks
BOTH AMNS and RAMICS

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604373N: *Airborne Mine Countermeasures (AMCM)*

PROJECT

2473: *Airborne Mine Neutralization System*

| AMNS | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | | | | |
|---|-------------------------|----|----|----|---------|----|----|----|-----------------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|--|--|--|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | | | |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AMNS FRPDR | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| System Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AMNS System Development | AMNS System Development | | | | | | | | P3I Development | | | | | | | | | | | | | | | | | | | | | | |
| Test & Evaluation Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AMNS Development Testing (MH-60s) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AMNS Operational Testing (MH-60s) Start | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604373N - 2473

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604373N: *Airborne Mine Countermeasures (AMCM)*

PROJECT

2473: *Airborne Mine Neutralization System*

| RAMICS | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|-------------------------------|--------------------------------|----|----|----|---------------------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| System Development | RAMICS Modeling/STIM/SIM | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Software Ver | | | | RAMICS GLS Software | | | | | | | | | | | | | | | | | | | | | | | |
| | RAMICS Engineering Development | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test & Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | LIDAR Test | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | LIDAR Test | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604373N - 2473

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604373N: <i>Airborne Mine Countermeasures (AMCM)</i> | PROJECT 2473: <i>Airborne Mine Neutralization System</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| AMNS | | | | |
| Acquisition Milestones: AMNS FRPDR: AMNS FRPDR | 4 | 2012 | 4 | 2012 |
| Acquisition Milestones: AMNS FRPDR: Initial Operational Capability | 4 | 2012 | 4 | 2012 |
| Acquisition Milestones: AMNS System Development: AMNS System Development | 1 | 2010 | 3 | 2011 |
| Acquisition Milestones: AMNS System Development: AMNS P3I Development | 2 | 2012 | 4 | 2014 |
| Acquisition Milestones: AMNS Development Testing (MH-60s): AMNS Development Testing (MH-60s) | 2 | 2011 | 4 | 2011 |
| Acquisition Milestones: AMNS Operational Testing (MH-60s) Start: AMNS Operational Testing (MH-60s) Start | 1 | 2012 | 3 | 2012 |
| Production Milestones: AMNS LRIP (FY09) | 4 | 2010 | 4 | 2010 |
| Production Milestones: AMNS LRIP (FY10) | 4 | 2010 | 4 | 2010 |
| Production Milestones: AMNS LRIP (FY11) | 3 | 2011 | 3 | 2011 |
| Deliveries: AMNS LRIP Deliveries Start FY09 | 2 | 2012 | 1 | 2013 |
| Deliveries: AMNS LRIP Deliveries Start FY10 | 2 | 2012 | 1 | 2013 |
| Deliveries: AMNS LRIP Deliveries Start FY11 | 1 | 2013 | 3 | 2013 |
| RAMICS | | | | |
| Acquisition Milestones: System Development: RAMICS Modeling/STIM/SIM | 1 | 2010 | 4 | 2011 |
| Acquisition Milestones: System Development: RAMICS GLS Software | 1 | 2011 | 4 | 2011 |
| Acquisition Milestones: System Development: Software Requirements Verification | 1 | 2010 | 2 | 2010 |
| Acquisition Milestones: System Development: RAMICS Engineering Development | 1 | 2010 | 4 | 2011 |
| Test & Evaluation: Aberdeen LIDAR Test | 2 | 2011 | 3 | 2011 |
| Test & Evaluation: Aberporth LIDAR Test | 3 | 2011 | 4 | 2011 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604373N: <i>Airborne Mine Countermeasures (AMCM)</i> | PROJECT 4026: <i>Strat Into Medal, Tactics & Trng Organic Force</i> |
|---|--|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 4026: <i>Strat Into Medal, Tactics & Trng Organic Force</i> | 1.862 | 1.798 | 1.757 | - | 1.757 | 4.562 | 4.773 | 7.450 | 7.417 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

The C4I, Tactics, Mission Planning (CTMP), and Post-Mission Analysis (PMA) program began in FY97 as an initiative to provide near-real-time data linking of mine sensor data between the MH-53E aircraft and ship- and/or shore-based command centers. Additionally, the program began to develop MEDAL modules for each "Next Generation" system; and plans to develop "Next Generation" tactics; provide threat data and system requirements and capabilities to the MEDAL software development effort; and develop a common post-mission analysis tool for "Next Generation" systems.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|---|------------|------------|------------|
| <p>Title: Hardware/Software Development</p> <p align="right">Articles:</p> <p>FY 2010 Accomplishments: Code system-specific OPMA Modules</p> <p>FY 2011 Plans: Code system-specific OPMA Modules</p> <p>FY 2012 Plans: Code system-specific OPMA Modules</p> | 0.816 0 | 0.844 0 | 0.825 0 |
| <p>Title: Engineering Services/ILS:</p> <p>FY 2010 Accomplishments: Incorporate tactics lessons learned into TACMEMOs</p> <p>FY 2011 Plans: ILS planning for OPMA</p> <p>FY 2012 Plans: ILS planning for OPMA</p> | 0.931 0 | 0.849 0 | 0.827 0 |
| <p>Title: T&E Support Support for MEDAL/PMA</p> <p align="right">Articles:</p> | 0.115 0 | - | - |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604373N: <i>Airborne Mine Countermeasures (AMCM)</i> | PROJECT 4026: <i>Strat Into Medal, Tactics & Trng Organic Force</i> |
|---|--|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| <i>FY 2010 Accomplishments:</i> T&E Support for MEDAL/PMA integration during WSIT CT and DT | | | |
| <i>Title:</i> Management Support | - | 0.105 | 0.105 |
| | | 0 | 0 |
| <i>FY 2011 Plans:</i> MEDAL management support to CTMP | | | |
| <i>FY 2012 Plans:</i> MEDAL management support to CTMP | | | |
| Accomplishments/Planned Programs Subtotals | 1.862 | 1.798 | 1.757 |

| C. Other Program Funding Summary (\$ in Millions) | | | | | | | | | | | |
|--|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> | <u>FY 2012</u> | <u>FY 2012</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To Complete</u> | <u>Total Cost</u> |
| | | | <u>Base</u> | <u>OCO</u> | <u>Total</u> | | | | | | |
| • OPN 4248: <i>Airborne MCM - OPMA</i> | 0.256 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.256 |

D. Acquisition Strategy
 The Organic Post-Mission Analysis (OPMA) capability for the OAMCM systems will be developed by NSWC PC, Panama City, FL. The OPMA project will leverage existing system-specific developmental PMA software, maximize commonality, and host the software on a common shipboard computer. OPN funding will be used to procure ruggedized portable OPMA computers for ship of opportunity deployments, land basing, and training. Development of OAMCM-system-specific MEDAL modules will be performed by SAIC, McLean, VA. This effort will include post-test updates for the system-specific MEDAL modules to allow transition to a Fleet release. NSWC-PC will contract for this work on a time and materials basis. The tactics development, tactics training, and tactics algorithms/database efforts are performed by NSWC-PC. These efforts will provide reach back support as the OAMCM systems begin to be fielded; will develop modifications to environmental databases necessary to support OAMCM mission planning; will update the MIW Tactics Continuum to address OAMCM; and will update the gear and mine database for threats addressed by the OAMCM systems.

E. Performance Metrics
 Successfully integrate CTMP into the fleet.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604373N: <i>Airborne Mine Countermeasures (AMCM)</i> | PROJECT 4026: <i>Strat Into Medal, Tactics & Trng Organic Force</i> |
|---|--|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Hardware/Software Development | C/CPAF | SAIC:VA | 1.067 | 0.844 | Dec 2010 | 0.825 | Nov 2011 | - | | 0.825 | Continuing | Continuing | Continuing |
| Hardware/Software Development | WR | NSWC PC:Panama City FL | 2.585 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Subtotal | | | 3.652 | 0.844 | | 0.825 | | - | | 0.825 | | | |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Engineering Services | WR | NAVO:Various | - | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Engineering Services | C/CPAF | Various:Various | 0.877 | 0.304 | Nov 2010 | 0.282 | Nov 2011 | - | | 0.282 | Continuing | Continuing | Continuing |
| Engineering Services | WR | NSWC PC:Panama City FL | 2.583 | 0.456 | Nov 2010 | 0.456 | Nov 2011 | - | | 0.456 | Continuing | Continuing | Continuing |
| Engineering Services | C/CPAF | BAE:VA | 0.609 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Engineering Services | C/CPAF | SAIC:VA | 0.331 | 0.089 | Nov 2010 | 0.089 | Nov 2011 | - | | 0.089 | Continuing | Continuing | Continuing |
| ILS | WR | NSWC PC:Panama City FL | 0.910 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Subtotal | | | 5.310 | 0.849 | | 0.827 | | - | | 0.827 | | | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Test and Evaluation | WR | NSWC PC:Panama City FL | 0.040 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Subtotal | | | 0.040 | - | | - | | - | | - | | | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604373N: <i>Airborne Mine Countermeasures (AMCM)</i> | PROJECT 4026: <i>Strat Into Medal, Tactics & Trng Organic Force</i> |
|---|--|---|

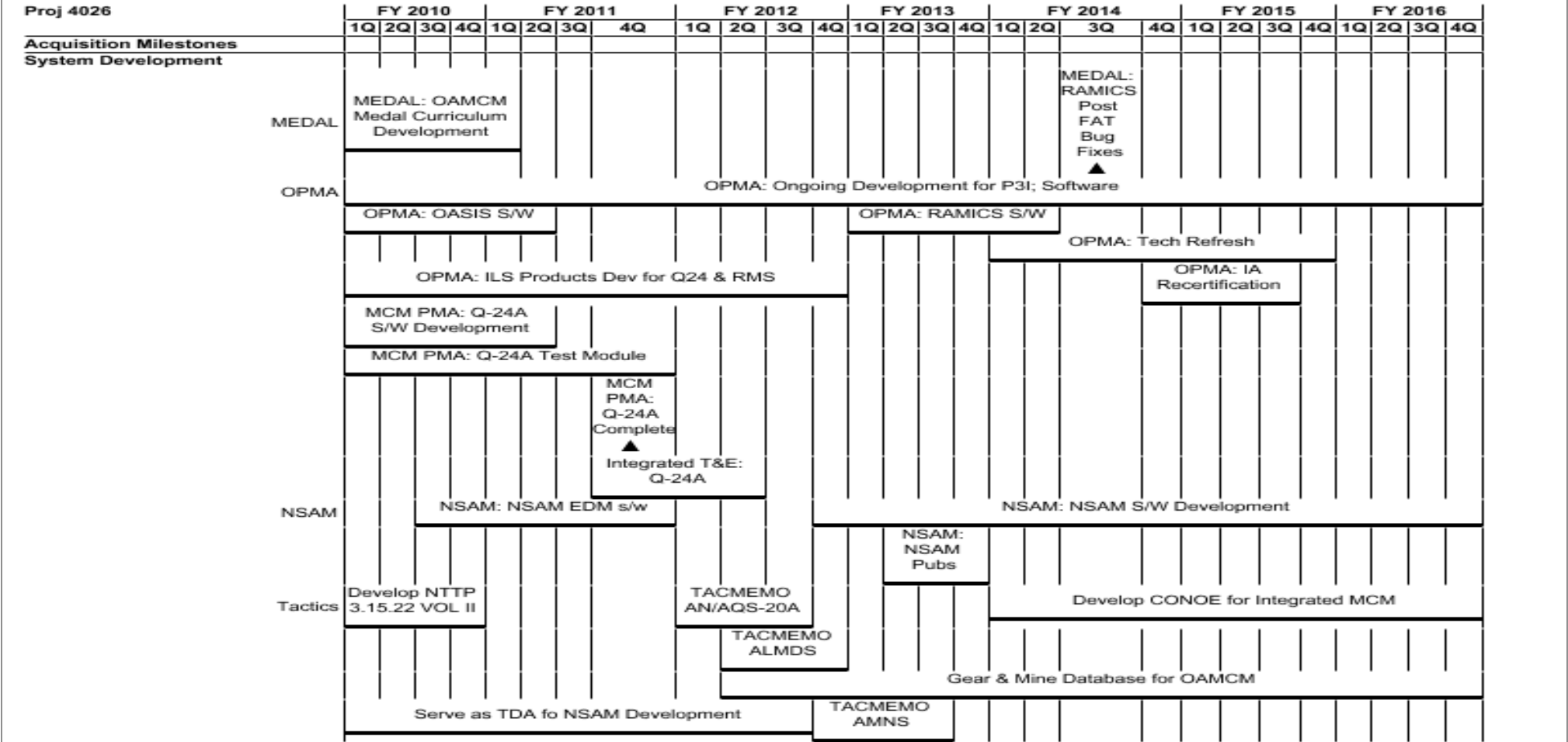
| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|-------------------------------|----------------|------------|---------------------|------------|--------------------|------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Management Support | WR | NSWC PC:Panama City FL | 0.777 | 0.105 | Dec 2010 | 0.105 | Dec 2011 | - | | 0.105 | Continuing | Continuing | Continuing |
| Management Support | C/CPIF | SAIC:VA | 0.108 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Acquisition Workforce Fund | Various | Various:Various | 0.013 | - | | - | | - | | - | 0.000 | 0.013 | |
| Subtotal | | | 0.898 | 0.105 | | 0.105 | | - | | 0.105 | | | |
| | | | Total Prior Years Cost | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
| Project Cost Totals | | | 9.900 | 1.798 | | 1.757 | | - | | 1.757 | | | |

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604373N: <i>Airborne Mine Countermeasures (AMCM)</i> | PROJECT 4026: <i>Strat Into Medal, Tactics & Trng Organic Force</i> |
|---|--|---|

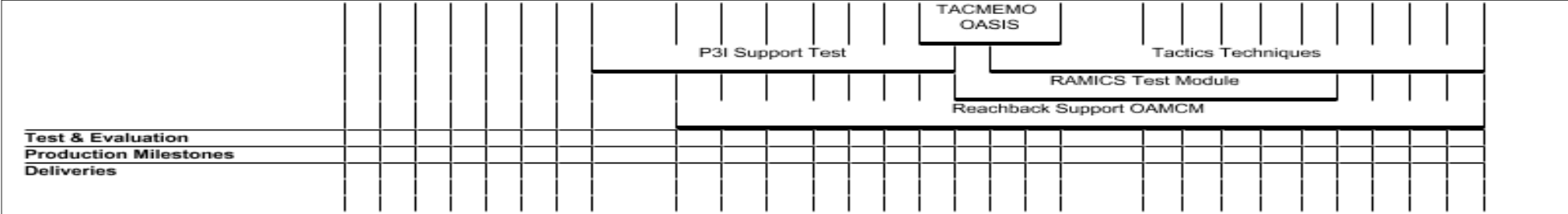


UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604373N: <i>Airborne Mine Countermeasures (AMCM)</i> | PROJECT 4026: <i>Strat Into Medal, Tactics & Trng Organic Force</i> |
|---|--|---|



2012PB - 0604373N - 4026

UNCLASSIFIED

| | | |
|---|--|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604373N: <i>Airborne Mine Countermeasures (AMCM)</i> | PROJECT 4026: <i>Strat Into Medal, Tactics & Trng Organic Force</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 4026 | | | | |
| System Development: MEDAL: MEDAL: OAMCM Medal Curriculum Development | 1 | 2010 | 1 | 2011 |
| System Development: MEDAL: MEDAL: RAMICS Post FAT Bug Fixes | 3 | 2014 | 3 | 2014 |
| System Development: OPMA: OPMA: Ongoing Development for P3I; Software | 1 | 2010 | 4 | 2016 |
| System Development: OPMA: OPMA: RAMICS S/W | 1 | 2013 | 2 | 2014 |
| System Development: OPMA: OPMA: OASIS S/W | 1 | 2010 | 2 | 2011 |
| System Development: OPMA: OPMA: Tech Refresh | 1 | 2014 | 4 | 2015 |
| System Development: OPMA: OPMA: IA Recertification | 4 | 2014 | 3 | 2015 |
| System Development: OPMA: OPMA: ILS Products Dev for Q24 & RMS | 1 | 2010 | 4 | 2012 |
| System Development: OPMA: MCM PMA: Q-24A S/W Development | 1 | 2010 | 2 | 2011 |
| System Development: OPMA: MCM PMA: Q-24A Develop Module | 1 | 2010 | 4 | 2011 |
| System Development: OPMA: MCM PMA: Q-24A Complete | 4 | 2011 | 4 | 2011 |
| System Development: OPMA: Integrated T&E: Q-24A | 4 | 2011 | 2 | 2012 |
| System Development: NSAM: NSAM: NSAM EDM s/w | 3 | 2010 | 4 | 2011 |
| System Development: NSAM: NSAM: NSAM S/W Development | 4 | 2012 | 4 | 2016 |
| System Development: NSAM: NSAM: NSAM Pubs | 2 | 2013 | 4 | 2013 |
| System Development: Tactics: Develop CONOE for Integrated MCM | 1 | 2014 | 4 | 2016 |
| System Development: Tactics: TACMEMO AN/AQS-20A | 1 | 2012 | 3 | 2012 |
| System Development: Tactics: Develop NTTP 3.15.22 VOL II | 1 | 2010 | 4 | 2010 |
| System Development: Tactics: TACMEMO ALMDS | 2 | 2012 | 4 | 2012 |
| System Development: Tactics: Gear & Mine Database for OAMCM | 2 | 2012 | 4 | 2016 |
| System Development: Tactics: TACMEMO AMNS | 4 | 2012 | 3 | 2013 |

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604373N: <i>Airborne Mine Countermeasures (AMCM)</i> | PROJECT 4026: <i>Strat Into Medal, Tactics & Trng Organic Force</i> |

| Events by Sub Project | Start | | End | |
|---|----------------|-------------|----------------|-------------|
| | Quarter | Year | Quarter | Year |
| System Development: Tactics: Serve as TDA fo NSAM Development | 1 | 2010 | 3 | 2012 |
| System Development: Tactics: TACMEMO OASIS | 3 | 2013 | 2 | 2014 |
| System Development: Tactics: Tactics Techniques | 1 | 2014 | 4 | 2016 |
| System Development: Tactics: P3I Support Development | 4 | 2011 | 3 | 2013 |
| System Development: Tactics: RAMICS Develop Module | 4 | 2013 | 4 | 2015 |
| System Development: Tactics: Reachback Support OAMCM | 1 | 2012 | 4 | 2016 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604373N: <i>Airborne Mine Countermeasures (AMCM)</i> | PROJECT 9179: <i>Surf Navy Integ Undersea Tactical Tech</i> |
|---|--|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 9179: <i>Surf Navy Integ Undersea Tactical Tech</i> | 0.922 | 0.909 | 0.895 | - | 0.895 | 0.898 | 0.911 | 0.929 | 0.939 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Surface Navy Integrated Undersea Tactical Technology (SNIUTT) will be used to develop an AN/SQQ-32, AN/AQS-14, AN/AQS-24, AN/AQS-20A and future OAMCM sensor training modules.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|---|------------|------------|------------|
| <p>Title: Hardware and Software Development</p> <p align="right">Articles:</p> <p>FY 2010 Accomplishments: Development of an AN/AQQ-32, AN/AQS-14, AN/AQS-20A sonar training module. Also development of a Scenario Generator software system for REMUS for mine like contact recognition training and ALMDS training modules.</p> <p>FY 2011 Plans: Development of an AN/AQQ-32, AN/AQS-14, AN/AQS-20A sonar training module. Also development of a Scenario Generator software system for REMUS for mine like contact recognition training and ALMDS training modules.</p> <p>FY 2012 Plans: Development of an AN/AQQ-32, AN/AQS-14, AN/AQS-20A sonar training module. Also development of a Scenario Generator software system for REMUS for mine like contact recognition training and ALMDS training modules.</p> | 0.793 0 | 0.773 0 | 0.768 0 |
| <p>Title: Engineering and ILS Services</p> <p align="right">Articles:</p> <p>FY 2010 Accomplishments: SNIUTT In-Service Engineering Agent (ISEA) and development support is provided by Naval Surface Warfare Center, Panama City (NSWC PC).</p> <p>FY 2011 Plans:</p> | 0.129 0 | 0.136 0 | 0.127 0 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604373N: <i>Airborne Mine Countermeasures (AMCM)</i> | PROJECT 9179: <i>Surf Navy Integ Undersea Tactical Tech</i> |
|---|--|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|--|---------|---------|---------|
| SNIUTT In-Service Engineering Agent (ISEA) and development support is provided by Naval Surface Warfare Center, Panama City (NSWC PC). | | | |
| <i>FY 2012 Plans:</i> SNIUTT In-Service Engineering Agent (ISEA) and development support is provided by Naval Surface Warfare Center, Panama City (NSWC PC). | | | |
| Accomplishments/Planned Programs Subtotals | 0.922 | 0.909 | 0.895 |

C. Other Program Funding Summary (\$ in Millions)

| Line Item | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|---------|---------|-----------------|----------------|------------------|---------|---------|---------|---------|---------------------|------------|
| • OPN 4248: <i>Airborne MCM - SNIUTT</i> | 0.120 | 0.120 | 0.300 | 0.000 | 0.300 | 0.300 | 0.306 | 0.312 | 0.312 | 0.000 | 1.770 |

D. Acquisition Strategy

Surface Navy Integrated Undersea Tactical Technology (SNIUTT) has been used to develop an AN/SQQ-32, AN/AQS-14, AN/AQS-24 and AN/AQS-20A sensor training modules. Funds will continue to support training for these four sonar systems, as well as training for the REMUS sonar systems and other OAMCM systems in the same format as previous training. The SNIUTT sensor training modules will be developed by NSWC PC, Panama City, FL, in association with Advanced Acoustic Concepts (AAC), Ronkonkoma, NY. NSWC PC will contract with AAC for this work under a Cost Plus Fixed-Fee (CPFF) scenario. Funds are being provided for development and delivery of refresher scenario based contact recognition training, and the update and modification of contact recognition training (interactive web based training and proficiency focused stand-alone training) in support of the SNIUTT program.

E. Performance Metrics

Successfully integrate SNIUTT into the school house training facility.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604373N: <i>Airborne Mine Countermeasures (AMCM)</i> | PROJECT 9179: <i>Surf Navy Integ Undersea Tactical Tech</i> |
|---|--|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Hardware Software Development | WR | NSWC PC:Panama City FI | 1.379 | 0.773 | Oct 2010 | 0.768 | Nov 2011 | - | | 0.768 | Continuing | Continuing | Continuing |
| Subtotal | | | 1.379 | 0.773 | | 0.768 | | - | | 0.768 | | | |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| ISEA | WR | NSWC, PC:Panama City FL | 0.239 | 0.136 | Oct 2010 | 0.127 | Nov 2011 | - | | 0.127 | 0.000 | 0.502 | |
| Subtotal | | | 0.239 | 0.136 | | 0.127 | | - | | 0.127 | 0.000 | 0.502 | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| DAWDF | Various | Various:Various | 0.003 | - | | - | | - | | - | 0.000 | 0.003 | |
| Subtotal | | | 0.003 | - | | - | | - | | - | 0.000 | 0.003 | |

| | | | Total Prior Years Cost | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|--|--|-------------------------------|----------------|--|---------------------|--|--------------------|--|----------------------|-------------------------|-------------------|---------------------------------|
| Project Cost Totals | | | 1.621 | 0.909 | | 0.895 | | - | | 0.895 | | | |

Remarks

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604373N: <i>Airborne Mine Countermeasures (AMCM)</i> | PROJECT 9999: <i>Congressional Adds</i> |
|---|--|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 9999: <i>Congressional Adds</i> | 2.390 | - | - | - | - | - | - | - | - | 0.000 | 2.390 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

9A39A - AMCM Open Architecture Technology Insertion Congressional Add - In support of Airborne Mine Countermeasure (AMCM) systems, this initiative will provide open systems migration of unique military standard sensors, electronics, and software system components to lower cost/higher performance commercial equivalent capabilities. This effort will develop and accelerate an Open Architecture Multi-static Technology Insertion solution for the Navy's Airborne Mine Countermeasures Program. The anticipated result is lower cost/higher performance equivalent capabilities based on open architecture software and hardware components.

B. Accomplishments/Planned Programs (\$ in Millions)

| | | |
|---|---------|---------|
| Congressional Add: Common Air Mine Countermeasures Tow Cable | FY 2010 | FY 2011 |
| | 2.390 | - |
| FY 2010 Accomplishments: Common Air Mine Countermeasures Tow Cable - (Congressional Add); In support of Airborne Mine Countermeasure (AMCM) systems, this initiative will design/develop a common tow cable for the Airborne Mine Counter Mine (AMCM) Systems to the unique military standard sensors, electronics, and software system components for a lower cost/higher performance commercial equivalent capabilities. | | |
| Congressional Adds Subtotals | 2.390 | - |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

Congressional adds.

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | | | | R-1 ITEM NOMENCLATURE | | | | | | | |
|---|----------------|----------------|---------------------|---|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | PE 0604378N: <i>Nav Integrated Fire Control-Counter Air Sys Eng</i> | | | | | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| Total Program Element | 10.574 | 21.517 | 24.898 | - | 24.898 | 28.990 | 15.849 | 4.651 | 4.743 | Continuing | Continuing |
| 3159: <i>Naval Integrated Fire Control-Counter Air SE&I</i> | 10.574 | 21.517 | 24.898 | - | 24.898 | 28.990 | 15.849 | 4.651 | 4.743 | Continuing | Continuing |

A. Mission Description and Budget Item Justification

3159 Naval Integrated Fire Control - Counter Air (NIFC-CA) Systems Engineering Integration and Test (SEI&T) project is a systems engineering effort to extend the Naval Theater Air and Missile Defense battlespace out to the maximum kinematic range of our weapons. This includes targets beyond the detection range of the shooter, including Engage On Remote (EoR) and Over the Horizon (OTH) targets. The NIFC-CA project exploits capabilities inherent in existing systems, optimizes current and emerging technologies in component system upgrades, integrates them together, performs kill chain tests, forming an interoperable System of Systems (SoS) to maximize future air defense capabilities. NIFC-CA consists of three kill chains called From the Air (FTA), From the Sea (FTS), and From the Land (FTL). As directed by OPNAV, the project is focused on SEI&T efforts to integrate the From The Sea (FTS) kill chain consisting of the E-2D Advanced Hawkeye, Cooperative Engagement Capability (CEC), AEGIS, and SM-6 missile. This PE will support efforts including system definition and architecture development, performance prediction, performance assessment, system test and risk reduction efforts, system analysis, modeling and simulation, and capability demonstrations for the FTS kill chain. The project also facilitates the development of the concept of operations with the warfighter to maximize effectiveness when deployed with the Fleet. This PE also includes SEI&T activities to integrate the US Army's Joint Land Attack Cruise Missile Defense Elevated Netted Sensor (JLENS) into the FTS kill chain as an elevated sensor and conduct a joint demonstration of that capability when the Navy systems are mature.

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 11.678 | 21.517 | 19.910 | - | 19.910 |
| Current President's Budget | 10.574 | 21.517 | 24.898 | - | 24.898 |
| Total Adjustments | -1.104 | - | 4.988 | - | 4.988 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | -0.637 | - | | | |
| • SBIR/STTR Transfer | -0.406 | - | | | |
| • Program Adjustments | - | - | 5.104 | - | 5.104 |
| • Section 219 Reprogramming | -0.061 | - | - | - | - |
| • Rate/Misc Adjustments | - | - | -0.116 | - | -0.116 |

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604378N: *Nav Integrated Fire Control-Counter Air Sys Eng*

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

UNCLASSIFIED

| | | | | | | | | | | | |
|---|----------------|----------------|---------------------|---|----------------------|----------------|----------------|---|----------------|-------------------------|-------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | | | | | | | DATE: February 2011 | | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | R-1 ITEM NOMENCLATURE PE 0604378N: <i>Nav Integrated Fire Control-Counter Air Sys Eng</i> | | | | PROJECT 3159: <i>Naval Integrated Fire Control-Counter Air SE&I</i> | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| 3159: <i>Naval Integrated Fire Control-Counter Air SE&I</i> | 10.574 | 21.517 | 24.898 | - | 24.898 | 28.990 | 15.849 | 4.651 | 4.743 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

3159 Naval Integrated Fire Control - Counter Air (NIFC-CA) Systems Engineering Integration and Test (SEI&T) project is a systems engineering effort to extend the Naval Theater Air and Missile Defense battlespace out to the maximum kinematic range of our weapons. This includes targets beyond the detection range of the shooter, including Engage On Remote (EoR) and Over the Horizon (OTH) targets. The NIFC-CA project exploits capabilities inherent in existing systems, optimizes current and emerging technologies in component system upgrades, integrates them together, performs kill chain tests, forming an interoperable System of Systems (SoS) to maximize future air defense capabilities. NIFC-CA consists of three kill chains called From the Air (FTA), From the Sea (FTS), and From the Land (FTL). As directed by OPNAV, the project is focused on SEI&T efforts to integrate the From The Sea (FTS) kill chain consisting of the E-2D Advanced Hawkeye, Cooperative Engagement Capability (CEC), AEGIS, and SM-6 missile. This PE will support efforts including system definition and architecture development, performance prediction, performance assessment, system test and risk reduction efforts, system analysis, modeling and simulation, and capability demonstrations for the FTS kill chain. The project also facilitates the development of the concept of operations with the warfighter to maximize effectiveness when deployed with the Fleet. This PE also includes SEI&T activities to integrate the US Army's Joint Land Attack Cruise Missile Defense Elevated Netted Sensor (JLENS) into the FTS kill chain as an elevated sensor and conduct a joint demonstration of that capability when the Navy systems are mature.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|---|----------------|----------------|----------------|
| Title: Integration and Test (I&E) Integrated Product Team | 3.500 | 11.818 | 19.206 |
| Articles: | 0 | 0 | 0 |
| Description: Efforts: The Integration and Test (I&T) Integrated Product Team (IPT) develops and executes the test plan to assess the FTS operational capability, performs risk reduction testing leveraging various component system tests. Test data will be used over time to verify, validate, and accredit the FTS simulation federation. I&T IPT provides support to the Integrated Master Schedule (IMS) to include test design and planning, test security plans, data management and collection plans. | | | |
| FY 2010 Accomplishments: Approved NIFC-CA Test Strategy, Conducted a successful Test Planning Review, Initial Planning for early FY-12 System of System Tracking Exercise, Successful NIFC-CA Federation build 1.3. | | | |
| FY 2011 Plans: | | | |

UNCLASSIFIED

| | | | | |
|---|---|---|----------------|----------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604378N: <i>Nav Integrated Fire Control-Counter Air Sys Eng</i> | PROJECT 3159: <i>Naval Integrated Fire Control-Counter Air SE&I</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| Continue Federation Refinement, Complete planning for October System of System Tracking Exercise, Conduct JLENS simulation exercises in support of the Desert Ship II Upgrade. FY 2012 Plans: Planning for JLENS Demo Event and future NIFCA-CA Testing to support integration with Advanced Capability Build 12 (ACB 12). Title: SEI&T INTEGRATED MASTER SCHEDULE | | | | |
| Description: Efforts: The SEI&T Integrated Master Schedule (IMS) is used as the primary tool for project planning and monitoring the efforts being performed by the SEI&T government and industry teams. This integrated engineering plan integrates the FTS Programs of Record schedules and how they relate to the FTS SEI&T effort, and the critical path to deployment. The IMS measures program performance (Earned Value (EV)-like metrics), and is used as a planning tool as the FTS contributing programs deploy at different times. The IMS contains all the tasks required to support deployment of the FTS capability. FY 2010 Accomplishments: Update and monitor as required. FY 2011 Plans: Update and monitor as required. FY 2012 Plans: Update and monitor as required. | | Articles: 0.400 0 | 0.350 0 | 0.398 0 |
| Title: ENGINEERING MANAGMENT AND SYSTEM DEFINITION | | | | |
| Description: Efforts: Engineering management and system definition including the development of the Systems Performance Document (SPD), SoS functional allocations, requirements, traceability, SoS trades studies, SoS information exchange requirements, interface specifications, and sensor network capability analysis. Provides for complete FTS kill chain performance analysis and interface verification through development of a federation of simulations provided directly from the FTS Programs of Record. Federated SoS simulations support architecture development, scenario development, predictive analysis for testing, and define capabilities and limitations of FTS kill chain performance analysis and interface verification through development of a federation of simulations provided directly from the FTS Programs of Record. Federated SoS simulations support architecture development, scenario development, predictive analysis for testing, and define capabilities and limitations of FTS kill chain for deployment. FY 2010 Accomplishments: | | Articles: 6.403 0 | 4.498 0 | 4.294 0 |

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604378N: <i>Nav Integrated Fire Control-Counter Air Sys Eng</i> | PROJECT 3159: <i>Naval Integrated Fire Control-Counter Air SE&I</i> |

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|---|----------------|----------------|----------------|
| Update Measures of Effectiveness (MOE) and Measures of Performance (MOP), update SoS interface requirement specifications, continue builds for SoS Federation based on SoS test programs and results, conduct Performance Assessment Reports (SoS performance analysis), continue risk management and mitigation efforts, performs JLENS integration for demonstration. FY 2011 Plans: Update MOE/MOPs, update SoS interface requirement specifications, continue builds for SoS Federation based on SoS test programs and results, conduct Performance Assessment Reports (SoS performance analysis), conduct FoS tracking exercise leveraging AEGIS ACB-12 Demonstration/Certification, continue risk management and mitigation efforts, performs JLENS integration for demonstration. FY 2012 Plans: Based on SoS test program results to date, start validation of MOE/MOP's, conduct SoS performance analyses, continue builds of SoS M&S Federation, continue risk management and mitigation efforts, perform JLENS demonstration and post test analyses. | | | |
| Title: SYSTEMS ENGINEERING, INTEGRATION AND TEST WITH ARMY JLENS PROGRAM Description: Efforts: Perform Systems Engineering, Integration and Test with Army JLENS program. Supports modeling and simulation and predictive analysis with JLENS as airborne sensor in the FTS kill chain. Provides for demonstration planning, execution, and data analysis. FY 2010 Accomplishments: Continue participation in JLENS SDD, finalize demonstration planning. FY 2011 Plans: Upgrade and Test White Sands Missile Range (WSMR) Desert Ship with AEGIS ACB-12 functionality and CEC Land Mobile Unit. Integrate with JLENS onsite. FY 2012 Plans: Conduct JLENS demonstration event and post test analyses. | 0.271 0 | 4.851 0 | 1.000 0 |
| Articles: | | | |
| Accomplishments/Planned Programs Subtotals | 10.574 | 21.517 | 24.898 |

| C. Other Program Funding Summary (\$ in Millions) | | | | | | | | | | | |
|--|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> <u>Base</u> | <u>FY 2012</u> <u>OCO</u> | <u>FY 2012</u> <u>Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
| • 0603658N: CEC | 2.080 | 2.080 | 3.390 | 0.000 | 3.390 | 2.121 | 2.164 | 2.207 | 2.251 | Continuing | Continuing |
| | 120.371 | 70.132 | 29.357 | 0.000 | 29.357 | 17.251 | 6.180 | 3.960 | 4.146 | Continuing | Continuing |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604378N: <i>Nav Integrated Fire Control-Counter Air Sys Eng</i> | PROJECT 3159: <i>Naval Integrated Fire Control-Counter Air SE&I</i> |
|---|---|---|

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> <u>Base</u> | <u>FY 2012</u> <u>OCO</u> | <u>FY 2012</u> <u>Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
|--|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| • 0604366N: <i>Standard Missile SM-6</i> | | | | | | | | | | | |
| • 0604307N: <i>AEGIS</i> | 24.678 | 21.497 | 11.994 | 0.000 | 11.994 | 11.900 | 8.828 | 7.112 | 8.038 | Continuing | Continuing |

D. Acquisition Strategy

Not Applicable

E. Performance Metrics

The NIFC-CA SEI&T contractor team shall execute Modeling and Simulation Federation builds 1.3 and 1.4, conduct 2 engineering-level performance analyses and one System Capability Review, complete one major update of the risk register, and initiate Test & Evaluation planning for NIFC-CA participation in FY12-13 events at the Surface Combat Systems Center (SCSC) and White Sands Missile Range (WSMR).

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604378N: <i>Nav Integrated Fire Control-Counter Air Sys Eng</i> | PROJECT 3159: <i>Naval Integrated Fire Control-Counter Air SE&I</i> |
|---|---|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Systems Engineering | WR | NSWC/DD:Dahlgren, VA | 2.246 | 0.760 | Oct 2010 | 0.703 | Oct 2011 | - | | 0.703 | 0.000 | 3.709 | |
| Systems Engineering | Various | Various:Various | 5.265 | 1.238 | Oct 2010 | 1.146 | Oct 2011 | - | | 1.146 | 0.000 | 7.649 | |
| Systems Engineering | C/CPAF | JHU/APL:Laurel, MD | 0.825 | 0.340 | Oct 2010 | 0.315 | Oct 2011 | - | | 0.315 | 0.000 | 1.480 | |
| Systems Engineering | C/CPAF | NGMS:Reston, VA | 0.962 | 0.420 | Oct 2010 | 0.389 | Oct 2011 | - | | 0.389 | 0.000 | 1.771 | |
| Systems Engineering | C/CPAF | NGIS:Bethpage, NY | 3.601 | 1.010 | Oct 2010 | 0.935 | Oct 2011 | - | | 0.935 | 0.000 | 5.546 | |
| Systems Engineering | C/CPAF | LM MS2:Moorestown, NJ | 3.375 | 1.040 | Oct 2010 | 0.962 | Oct 2011 | - | | 0.962 | 0.000 | 5.377 | |
| Systems Engineering | C/CPAF | Raytheon Co.:Tucson, AZ | 5.461 | 1.232 | Oct 2010 | 1.140 | Oct 2011 | - | | 1.140 | 0.000 | 7.833 | |
| Systems Engineering | C/CPAF | Boeing IDS:ST. Louis, MO | 1.358 | 0.490 | Oct 2010 | 0.453 | Oct 2011 | - | | 0.453 | 0.000 | 2.301 | |
| Systems Engineering | C/CPAF | CSCI:Springfield, VA | 0.700 | - | | - | | - | | - | 0.000 | 0.700 | |
| Systems Engineering | WR | SWDG:Norfolk, VA | 0.459 | 0.140 | Oct 2010 | 0.130 | Oct 2011 | - | | 0.130 | 0.000 | 0.729 | |
| Systems Engineering | WR | COTF:Norfolk, VA | 0.484 | 0.290 | Oct 2010 | 0.268 | Oct 2011 | - | | 0.268 | 0.000 | 1.042 | |
| Systems Engineering | WR | NSWC/PHD:Port Hueneme, CA | 0.265 | 0.275 | Oct 2010 | 0.254 | Oct 2011 | - | | 0.254 | 0.000 | 0.794 | |
| Subtotal | | | 25.001 | 7.235 | | 6.695 | | - | | 6.695 | 0.000 | 38.931 | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Integration and Test | WR | NSWC/DD:Dahlgren, VA | 1.321 | 0.661 | Oct 2010 | 0.612 | Oct 2011 | - | | 0.612 | Continuing | Continuing | Continuing |
| Integration and Test | C/CPAF | Raytheon Co.:Tucson, AZ | 1.170 | 3.296 | Oct 2010 | 3.050 | Oct 2011 | - | | 3.050 | Continuing | Continuing | Continuing |
| Integration and Test | C/CPAF | Lockheed Martin - Moorestown, NJ:Moorestown, NJ | 0.540 | 4.657 | Oct 2010 | 8.054 | Oct 2011 | - | | 8.054 | Continuing | Continuing | Continuing |
| Integration and Test | C/CPAF | NGIS:Bethpage, NY | 0.550 | 0.316 | Oct 2010 | 0.292 | Oct 2011 | - | | 0.292 | Continuing | Continuing | Continuing |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604378N: <i>Nav Integrated Fire Control-Counter Air Sys Eng</i> | PROJECT 3159: <i>Naval Integrated Fire Control-Counter Air SE&I</i> |
|---|---|---|

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Integration and Test | Various | Various:Various | 5.241 | 1.435 | Oct 2010 | 2.571 | Oct 2011 | - | | 2.571 | Continuing | Continuing | Continuing |
| Integration and Test | WR | NSWC/PHD:Port Hueneme, CA | 0.620 | 1.453 | Oct 2010 | 1.344 | Oct 2011 | - | | 1.344 | Continuing | Continuing | Continuing |
| Subtotal | | | 9.442 | 11.818 | | 15.923 | | - | | 15.923 | | | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Project Planning and Management | C/CPAF | BOEING IDS:St. Louis, MO | 0.600 | 0.150 | Oct 2010 | 0.139 | Oct 2011 | - | | 0.139 | 0.000 | 0.889 | |
| Project Planning and Management | C/CPAF | Raytheon Co.:Tucson, AZ | 1.296 | 0.480 | Oct 2010 | 0.444 | Oct 2011 | - | | 0.444 | 0.000 | 2.220 | |
| Project Planning and Management | C/CPAF | LM MS2:Moorestown, NJ | 1.188 | 0.297 | Oct 2010 | 0.275 | Oct 2011 | - | | 0.275 | 0.000 | 1.760 | |
| Project Planning and Management | C/CPAF | NGIS:Bethpage, NY | 1.251 | 0.430 | Oct 2010 | 0.398 | Oct 2011 | - | | 0.398 | Continuing | Continuing | Continuing |
| Project Planning and Management | WR | NSWC/DD:Dahlgren, VA | 0.936 | 0.330 | Oct 2010 | 0.305 | Oct 2011 | - | | 0.305 | Continuing | Continuing | Continuing |
| Project Planning and Management | C/CPAF | MEI:Arlington, VA | 2.197 | 0.134 | Oct 2010 | 0.595 | Oct 2011 | - | | 0.595 | Continuing | Continuing | Continuing |
| Project Planning and Management | C/CPAF | Various:Various | 3.552 | 0.643 | Oct 2010 | 0.124 | Oct 2011 | - | | 0.124 | Continuing | Continuing | Continuing |
| Subtotal | | | 11.020 | 2.464 | | 2.280 | | - | | 2.280 | | | |

| | Total Prior Years Cost | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|------------------------|---------|--------------|-------------|---------------|------------------|------------|--------------------------|
| Project Cost Totals | | 45.463 | 21.517 | 24.898 | - | 24.898 | | |

Remarks

UNCLASSIFIED

APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 5: Development & Demonstration (SDD)

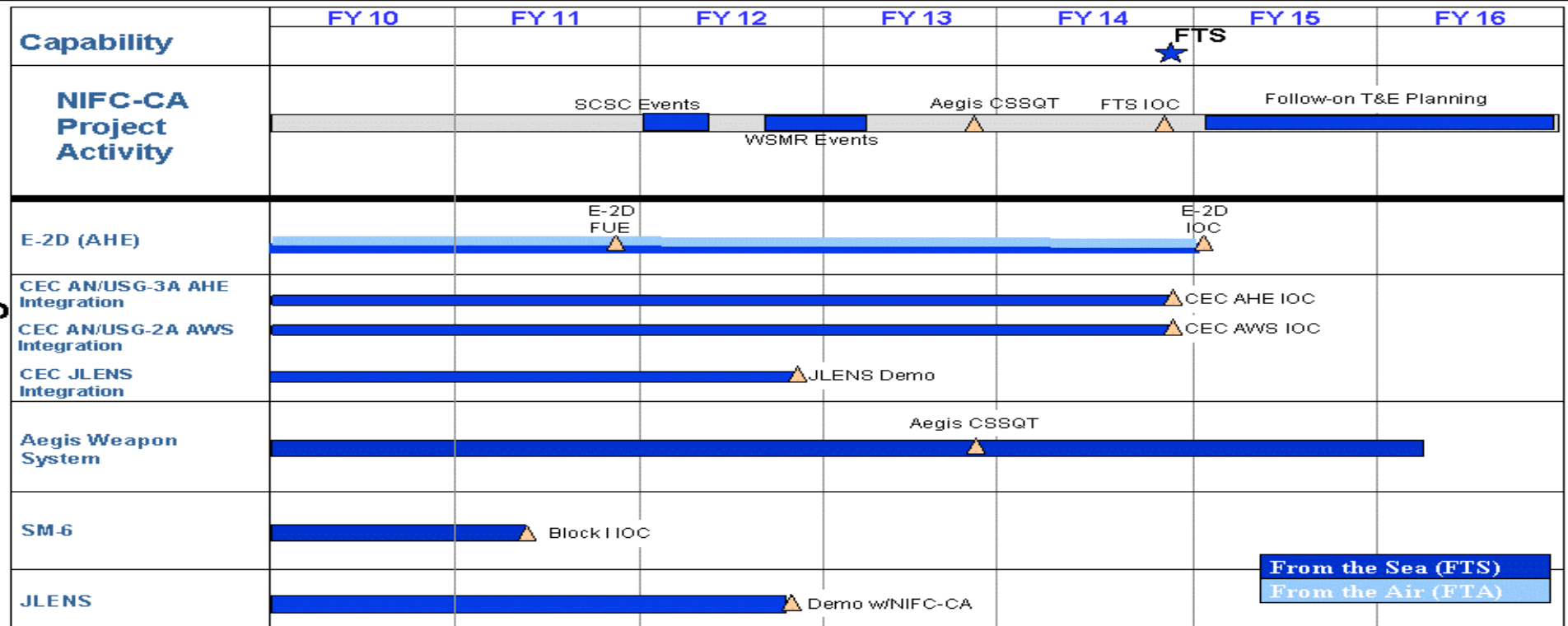
R-1 ITEM NOMENCLATURE
 PE 0604378N: Nav Integrated Fire Control-Counter Air Sys Eng

PROJECT
 3159: Naval Integrated Fire Control-Counter Air SE&I



NIFC-CA Planning Schedule

Other Related Programs



Revision Dated: 21 May 2010

From the Sea (FTS)
 From the Air (FTA)

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604378N: <i>Nav Integrated Fire Control-Counter Air Sys Eng</i> | PROJECT 3159: <i>Naval Integrated Fire Control-Counter Air SE&I</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 3159 | | | | |
| WSMR Events | 3 | 2012 | 1 | 2013 |
| SCSC EVENTS | 1 | 2012 | 2 | 2012 |
| AEGIS CSSQT | 4 | 2013 | 4 | 2013 |
| FTS IOC | 4 | 2014 | 4 | 2014 |
| E-2D FUE | 4 | 2011 | 4 | 2011 |
| E-2D AHE IOC | 1 | 2015 | 1 | 2015 |
| CEC AN/USG-3A AHE IOC | 4 | 2014 | 4 | 2014 |
| CEC AN/USG-2A AWS INTEGRATION/ CEC AWS IOC | 4 | 2014 | 4 | 2014 |
| CEC JLENS DEMO | 4 | 2012 | 4 | 2012 |
| SM-6 BLOCK 1 IOC | 2 | 2011 | 2 | 2011 |
| JLENS DEMO WITH NIFC-CA | 4 | 2012 | 4 | 2012 |
| FOLLOW-ON TEST AND EVALUATION PLANNING | 1 | 2015 | 4 | 2016 |

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | | | | R-1 ITEM NOMENCLATURE | | | | | | | |
|---|----------------|----------------|---------------------|---|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | PE 0604404N: <i>Future Unmanned Carrier-based Strike System</i> | | | | | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| Total Program Element | - | - | 121.150 | - | 121.150 | 362.374 | 814.979 | 759.737 | 462.861 | Continuing | Continuing |
| 3278: <i>UCLASS Development</i> | - | - | 121.150 | - | 121.150 | 362.374 | 814.979 | 759.737 | 462.861 | Continuing | Continuing |

Note

FY12 represents a new start budget submission of PE 0604404N.

A. Mission Description and Budget Item Justification

The Unmanned Carrier Launched Airborne Surveillance and Strike (UCLASS) program will address capability gaps identified in 2009 in the Navy's Power Projection from the Sea (PPftS) beyond 2024 Capability Based Assessment (CBA), which highlighted a lack of persistent, carrier-based Intelligence, Surveillance, and Reconnaissance (ISR) and Strike assets. The program's draft Initial Capability Document (ICD) identified 2018 for delivery of the UCLASS initial capability.

The UCLASS objective is to enhance carrier versatility through integration of unmanned air vehicles into Carrier Air Wing (CVW) by 2018. The UCLASS System will enable a single carrier to conduct 24/7 operations (ISR, Targeting, limited Strike, and Bomb Damage Assessment) and precision strike. UCLASS operations are envisioned to include carrier launch, mission operations, and carrier recoveries within the Carrier Controlled Airspace (CCA); land-based launch, mission operations, and recovery outside the CCA; and potential air vehicle control within the carrier's Area of Responsibility (AOR) by other CVW assets.

The UCLASS System combines capabilities provided by a carrier-suitable, semi-autonomous, unmanned Air Segment, a Control System & Connectivity (CS&C) Segment, a Government-led Carrier Vessel Nuclear (CVN) Segment, along with other Navy systems (either existing within the current infrastructure or under development) to fill the gaps identified within the PPftS CBA. Interfaces and upgrades with existing ship and land-based command and control systems, including ISR Tasking, Processing, Exploitation, and Dissemination (TPED) systems, will be implemented as necessary.

The scope of the program includes, but is not limited to, system-level requirements identification, allocation of requirements to segments and components, design, development, integration, fabrication, test, training, and support to provide the UCLASS capabilities. The UCLASS system will deliver the necessary air vehicles, mission systems, shipboard and land-based launch and recovery control systems, associated support systems, interfaces, and upgrades to other Navy systems (as required) to meet these capabilities.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604404N: <i>Future Unmanned Carrier-based Strike System</i> |
|---|---|

| B. Program Change Summary (\$ in Millions) | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012 Base</u> | <u>FY 2012 OCO</u> | <u>FY 2012 Total</u> |
|---|-----------------------|-----------------------|----------------------------|---------------------------|-----------------------------|
| Previous President's Budget | - | - | - | - | - |
| Current President's Budget | - | - | 121.150 | - | 121.150 |
| Total Adjustments | - | - | 121.150 | - | 121.150 |
| • Congressional General Reductions | | | | | |
| • Congressional Directed Reductions | | | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | | | | |
| • Congressional Directed Transfers | | | | | |
| • Reprogrammings | - | - | | | |
| • SBIR/STTR Transfer | - | - | | | |
| • Program Adjustments | - | - | 121.311 | - | 121.311 |
| • Rate/Misc Adjustments | - | - | -0.161 | - | -0.161 |

Change Summary Explanation

Schedule: Not applicable.
 Technical: Not applicable.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604404N: <i>Future Unmanned Carrier-based Strike System</i> | PROJECT 3278: <i>UCLASS Development</i> |
|---|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 3278: <i>UCLASS Development</i> | - | - | 121.150 | - | 121.150 | 362.374 | 814.979 | 759.737 | 462.861 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

Note

FY12 represents a new start budget submission of PE 0604404N.

A. Mission Description and Budget Item Justification

The Unmanned Carrier Launched Airborne Surveillance and Strike (UCLASS) program will address capability gaps identified in 2009 in the Navy's Power Projection from the Sea (PPftS) beyond 2024 Capability Based Assessment (CBA), which highlighted a lack of persistent, carrier-based Intelligence, Surveillance, and Reconnaissance (ISR) and Strike assets. The program's draft Initial Capability Document (ICD) identified 2018 for delivery of the UCLASS initial capability.

The UCLASS objective is to enhance carrier versatility through integration of unmanned air vehicles into Carrier Air Wing (CVW) by 2018. The UCLASS System will enable a single carrier to conduct 24/7 operations (ISR, Targeting, limited Strike, and Bomb Damage Assessment) and precision strike. UCLASS operations are envisioned to include carrier launch, mission operations, and carrier recoveries within the Carrier Controlled Airspace (CCA); land-based launch, mission operations, and recovery outside the CCA; and potential air vehicle control within the carrier's Area of Responsibility (AOR) by other CVW assets.

The UCLASS System combines capabilities provided by a carrier-suitable, semi-autonomous, unmanned Air Segment, a Control System & Connectivity (CS&C) Segment, a Government-led Carrier Vessel Nuclear (CVN) Segment, along with other Navy systems (either existing within the current infrastructure or under development) to fill the gaps identified within the PPftS CBA. Interfaces and upgrades with existing ship and land-based command and control systems, including ISR Tasking, Processing, Exploitation, and Dissemination (TPED) systems, will be implemented as necessary.

The scope of the program includes, but is not limited to, system-level requirements identification, allocation of requirements to segments and components, design, development, integration, fabrication, test, training, and support to provide the UCLASS capabilities. The UCLASS system will deliver the necessary air vehicles, mission systems, shipboard and land-based launch and recovery control systems, associated support systems, interfaces, and upgrades to other Navy systems (as required) to meet these capabilities.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|--|---------|---------|---------|
| Title: Product Development | - | - | 103.010 |
| Articles: | | | 0 |
| Description: Product Development efforts include, but are not limited to, design, development, integration, fabrication, test, and training for all UCLASS capabilities across all system segments. | | | |

UNCLASSIFIED

| | | | | |
|---|---|---|----------------|----------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604404N: <i>Future Unmanned Carrier-based Strike System</i> | PROJECT 3278: <i>UCLASS Development</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| FY 2012 Plans: Initiate design and development of the UCLASS System. Government oversight of all UCLASS contract activities. Initiate CS&C Segment interface and integration activities. Initiate CVN Segment interface and integration activities. | | | | |
| Title: Management Services | | - | - | 18.140 |
| Articles: | | | | 0 |
| Description: Efforts include Government program, engineering, test, and logistics management. | | | | |
| FY 2012 Plans: Complete milestone preparation activities. Oversee UCLASS System interface and integration activities. Conduct source selections and award UCLASS System contracts. Initiate logistics management tasks including facilities, training, and manpower. Establish and maintain security and program office environments. | | | | |
| Accomplishments/Planned Programs Subtotals | | - | - | 121.150 |
| C. Other Program Funding Summary (\$ in Millions) | | | | |
| N/A | | | | |
| D. Acquisition Strategy | | | | |
| Acquisition and Contracting strategies that comply with current statute, regulations, and instructions are in development in preparation for Milestone A. | | | | |
| E. Performance Metrics | | | | |
| The Technology Development Phase contract award is planned in 2Q FY12. Delivery of the Initial Capability is planned for 2018. | | | | |

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604404N: <i>Future Unmanned Carrier-based Strike System</i> | PROJECT 3278: <i>UCLASS Development</i> |
|---|---|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Primary Hardware Development | C/CPIF | TBD:TBD | - | - | | 70.071 | Mar 2012 | - | | 70.071 | Continuing | Continuing | Continuing |
| Systems Engineering | Various | Various:Various | - | - | | 3.536 | Dec 2011 | - | | 3.536 | Continuing | Continuing | Continuing |
| Systems Engineering | WR | NAWCAD:Patuxent River, MD | - | - | | 5.500 | Dec 2011 | - | | 5.500 | Continuing | Continuing | Continuing |
| Control System and Connectivity Segment | Various | Various:Various | - | - | | 5.203 | Dec 2011 | - | | 5.203 | Continuing | Continuing | Continuing |
| Carrier Segment | Various | Various:Various | - | - | | 18.700 | Dec 2011 | - | | 18.700 | Continuing | Continuing | Continuing |
| Subtotal | | | - | - | | 103.010 | | - | | 103.010 | | | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Management | Various | Various:Various | - | - | | 8.040 | Dec 2011 | - | | 8.040 | Continuing | Continuing | Continuing |
| Management | WR | NAWCAD:Patuxent River, MD | - | - | | 10.100 | Dec 2011 | - | | 10.100 | Continuing | Continuing | Continuing |
| Subtotal | | | - | - | | 18.140 | | - | | 18.140 | | | |

| | | | Total Prior Years Cost | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|--|--|------------------------|---------|--|--------------|--|-------------|--|---------------|------------------|------------|--------------------------|
| Project Cost Totals | | | - | - | | 121.150 | | - | | 121.150 | | | |

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604404N: <i>Future Unmanned Carrier-based Strike System</i> | PROJECT 3278: <i>UCLASS Development</i> |
|---|---|---|

| Future Unmanned Carrier-Based Strike System | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|---|---------|----|----|----|---------|----|----|----|---------|----|----|---------------------------|---------|----|----|--|---------|----|----|-----------------|---------|----|----|----|---------|----|----|----|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MS-A ▲ | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Systems Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| System Design | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | UCLASS Air Segment Design | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | UCLASS Air Segment System Assembly and Integration | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | CVN Segment Development and Integration | | | | | | | | | | | | |
| Contract Award | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CA ● | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ship Installations | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | Developmental CVN | | | | | | | | Operational CVN | | | | | | | | |
| Test and Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Developmental Test | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | CVN Segment Surrogate/Flight Testing | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | UCLASS Air Segment Mission Systems, Airworthiness, CVN Buildup Testing | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contract Awards | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604404N - 3278

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604404N: <i>Future Unmanned Carrier-based Strike System</i> | PROJECT 3278: <i>UCLASS Development</i> |
|---|---|---|

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| <i>Future Unmanned Carrier-Based Strike System</i> | | | | |
| Acquisition Milestones: Milestones: Milestone A | 2 | 2012 | 2 | 2012 |
| Systems Development: System Design: Unmanned Carrier Launched Airborne Surveillance and Strike (UCLASS) Air Segment Design | 2 | 2012 | 1 | 2015 |
| Systems Development: System Design: UCLASS Air Segment System Assembly and Integration | 1 | 2014 | 4 | 2016 |
| Systems Development: System Design: Carrier Vessel Nuclear (CVN) Segment Development and Integration | 2 | 2012 | 4 | 2016 |
| Systems Development: Contract Award: Contract Award | 2 | 2012 | 2 | 2012 |
| Systems Development: Ship Installations: Developmental CVN | 4 | 2014 | 4 | 2015 |
| Systems Development: Ship Installations: Operational CVN | 1 | 2016 | 4 | 2016 |
| Test and Evaluation: Developmental Test: CVN Segment Surrogate/Flight Testing | 3 | 2014 | 4 | 2016 |
| Test and Evaluation: Developmental Test: UCLASS Air Segment Mission Systems, Airworthiness, CVN Buildup Testing | 4 | 2015 | 4 | 2016 |

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604501N: <i>Advanced Above Water Sensors</i> |
|---|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| Total Program Element | 246.258 | 274.371 | 227.358 | - | 227.358 | 355.366 | 408.441 | 316.542 | 313.842 | Continuing | Continuing |
| 3186: <i>Air and Missile Defense Radar</i> | 164.870 | 228.436 | 166.568 | - | 166.568 | 317.229 | 384.295 | 290.907 | 287.832 | Continuing | Continuing |
| 3187: <i>Periscope Detection</i> | 6.942 | 3.374 | 14.509 | - | 14.509 | 1.733 | - | - | - | 0.000 | 26.558 |
| 3188: <i>Dual-Band Radar</i> | 5.465 | 5.419 | 10.291 | - | 10.291 | 7.111 | 7.088 | 5.371 | 5.413 | Continuing | Continuing |
| 3232: <i>Multi-Mission Signal Processor</i> | 52.649 | 32.607 | 32.361 | - | 32.361 | 25.778 | 14.989 | 19.324 | 19.638 | Continuing | Continuing |
| 3301: <i>Improved Capabilities SPY-1 Radar</i> | - | 4.535 | 3.629 | - | 3.629 | 3.515 | 2.069 | 0.940 | 0.959 | Continuing | Continuing |
| 9999: <i>Congressional Adds</i> | 16.332 | - | - | - | - | - | - | - | - | 0.000 | 16.332 |

A. Mission Description and Budget Item Justification

Air and Missile Defense Radar (AMDR): The AMDR suite is being developed to fulfill Integrated Air and Missile Defense requirements for multiple ship classes. This suite consists of an S-Band radar (AMDR-S), an X-band radar (AMDR-X) and a Radar Suite Controller (RSC). AMDR will provide multi-mission capabilities, simultaneously supporting both long range, exoatmospheric detection, tracking and discrimination of ballistic missiles, as well as Area and Self Defense against air and surface threats. For the Ballistic Missile Defense capability, increased radar sensitivity and bandwidth over current radar systems are needed to detect, track and support engagements of advanced ballistic missile threats at the required ranges, concurrent with Area and Self Defense against Air and Surface threats. For the Area Air Defense and Self Defense capability, increased sensitivity and clutter capability is needed to detect, react to, and engage stressing Very Low Observable/Very Low Flyer (VLO/VLF) threats in the presence of heavy land, sea, and rain clutter. This effort provides for the development of an active phased array radar with the required capabilities to address the evolving threat. The AMDR suite will obtain performance and technology enhancements throughout its service life based upon an approach that includes modularity of hardware and software, a scalable design and Open Architecture (OA) compliance.

Periscope Detection: The CVN Periscope Detection Radar program develops and delivers the capability which provides automatic detection and discrimination of submarine periscopes using advanced using advanced algorithms enabling discrimination of periscopes from surface contacts, buoys, small boats, floating mines, etc. This effort was initially based on an advanced development model, developed in the PE 0603553N, Surface Antisubmarine Warfare. System Engineering efforts under RDT&E funding will convert the Advanced Demonstration Model (ADM) variant previously developed and being installed to a production representative model that addresses manufacturability, supportability and reliability aspects as well as full system certification. In addition, funding will develop the Periscope Detection and Discrimination (PDD) Interface for AN/SPQ-9B Radar.

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy DATE: February 2011

| APPROPRIATION/BUDGET ACTIVITY | R-1 ITEM NOMENCLATURE |
|---|--|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | PE 0604501N: <i>Advanced Above Water Sensors</i> |

Dual-Band Radar (DBR) Upgrades: Funding is for Dual Band Radar (DBR) System upgrades to implement cost savings initiatives for Volume Search Radar (VSR) modifications, supportability analysis and associated logistics product updates; future upgrades/technology insertion efforts for Multi-Function Radar (MFR)/VSR as a part of the DBR suite on CVN 78 Class ships and the MFR on DDG 1000 Class ships. Funding is also required to resolve the hardware and software issues discovered during the various test events to include: DTB2-411, SDTS testing, Land Based Testing and pertinent At-Sea test events. The upgrades will include all aspects of the radar system/subsystems, including hardware and software. Specific subsystem areas include the Array, Transmit/Receive (T/R) module, Receiver/Exciter, Signal Data Processor, Radome, and power/cooling systems. Upgrades and technology insertions are required to maintain the level of force protection needed for ship defense against all threats envisioned in the littoral environment. The supportability analysis and logistic products associated with these upgrades will also be developed and updated.

DBR interface with Battle Force Tactical Trainer (BFTT): FY12-14 supports the design, development, and testing of an interface between the DBR and BFTT (AN/USQ-46) system that will provide training to enhance combat readiness for the CVN 78 crew. The DBR/BFTT interface development project initiates with the FY12 contract award and continues with validation testing in FY14.

Multi-Mission Signal Processor (MMSP): The development of Multi-Mission Signal Processor (MMSP) provides Anti-Air Warfare (AAW)/Ballistic Missile Defense (BMD) Multi-mission capability for DDG 51-78 and CG 65 - 73 as part of Aegis Modernization Program. This capability will be utilized for DDG 113 and follow new construction and Aegis Ashore. Modifies SPY-1B(V)/D Transmitter to enable dual beam for reduced frame times and better reaction time, and provides stability for all D(V) waveforms and avoid operational degradation. The SPY-1 radar system detects, tracks and supports engagements of a broader range of threats. MMSP improves performance in littoral, ducted clutter environments, and in electronic attack (EA), and chaff environments and provides greater commonality in computer programs and equipment.

Improved Capabilities for SPY-1 Radar: These Reliability, Maintainability, and Availability (RM&A) improvements are intended to reduce cascading failures, mitigate obsolescence issues, and improve reliability in support of Anti-Air Warfare (AAW) and Ballistic Missile Defense (BMD) missions; while still providing AN/SPY-1 Radar Total Ownership Cost Reductions. Improvements will yield reductions in annual fleet maintenance costs.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604501N: <i>Advanced Above Water Sensors</i> |
|---|--|

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 251.251 | 274.371 | 171.766 | - | 171.766 |
| Current President's Budget | 246.258 | 274.371 | 227.358 | - | 227.358 |
| Total Adjustments | -4.993 | - | 55.592 | - | 55.592 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | 3.713 | - | | | |
| • SBIR/STTR Transfer | -8.182 | - | | | |
| • Program Adjustments | - | - | 57.116 | - | 57.116 |
| • Section 219 Reprogramming | -0.448 | - | - | - | - |
| • Rate/Misc Adjustments | - | - | -1.524 | - | -1.524 |
| • Congressional General Reductions Adjustments | -0.076 | - | - | - | - |

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 9999: *Congressional Adds*

 Congressional Add: *Common Digital Sensor Architecture*

 Congressional Add: *Submarine Navigation Decision Aids*

 Congressional Add: *Advanced Sensor Development*

Congressional Add Subtotals for Project: 9999

Congressional Add Totals for all Projects

| | FY 2010 | FY 2011 |
|---|---------|---------|
| | 2.390 | - |
| | 3.983 | - |
| | 9.959 | - |
| Congressional Add Subtotals for Project: 9999 | 16.332 | - |
| Congressional Add Totals for all Projects | 16.332 | - |

Change Summary Explanation

Technical: Not Applicable

Schedule: PB11 budget supported a Technology Development (TD) phase beyond 24 months and resulted in a delay to the Engineering and Manufacturing Development (EMD) phase. The budget supports a 24 month TD phase, EMD start in FY13, and allows the program to meet an FY19 In-Yard Need date.

Cost:\$12.6M in FY10 was realigned from AMDR (3186) to MMSP (3232) for MMSP Development.

UNCLASSIFIED

| | | | | | | | | | | | |
|---|----------------|----------------|---------------------|--|----------------------|----------------|----------------|--|----------------------------|-------------------------|-------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | | | | | | | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | R-1 ITEM NOMENCLATURE PE 0604501N: <i>Advanced Above Water Sensors</i> | | | | PROJECT 3186: <i>Air and Missile Defense Radar</i> | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| 3186: <i>Air and Missile Defense Radar</i> | 164.870 | 228.436 | 166.568 | - | 166.568 | 317.229 | 384.295 | 290.907 | 287.832 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Air and Missile Defense Radar (AMDR): The AMDR suite is being developed to fulfill Integrated Air and Missile Defense requirements for multiple ship classes. This suite consists of an S-Band radar (AMDR-S), an X-band radar (AMDR-X) and a Radar Suite Controller (RSC). AMDR will provide multi-mission capabilities, simultaneously supporting both long range, exoatmospheric detection, tracking and discrimination of ballistic missiles, as well as Area and Self Defense against air and surface threats. For the Ballistic Missile Defense (BMD) capability, increased radar sensitivity and bandwidth over current radar systems are needed to detect, track and support engagements of advanced ballistic missile threats at the required ranges, concurrent with Area and Self Defense against Air and Surface threats. For the Area Air Defense and Self Defense capability, increased sensitivity and clutter capability is needed to detect, react to, and engage stressing Very Low Observable /Very Low Flyer (VLO/VLF) threats in the presence of heavy land, sea, and rain clutter. This effort provides for the development of an active phased array radar with the required capabilities to address the evolving threat. The AMDR suite will obtain performance and technology enhancements throughout its service life based upon an approach that includes modularity of hardware and software, a scalable design and Open Architecture (OA) compliance.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|--|----------------|----------------|----------------|
| Title: R&D/RISK REDUCTION | 17.726 | 12.280 | 4.209 |
| Articles: | 0 | 0 | 0 |
| FY 2010 Accomplishments: | | | |
| - Technology Risk Reduction of Digital Array Radar (DAR) / digital beamforming, array architectures, Transmit/Receive (T/R) modules, thermal management, and Radio Frequency (RF) semiconductors | | | |
| - Critical component and subsystem demonstrations, integration and testing | | | |
| - Conducted related international cooperative research projects, including Advanced Radar Technology Integrated System Testbed (ARTIST) (U.K.), Australian U.S. Phased Array Radar (AUSPAR) (Australia), and Open Architecture Radar Interface Standard (OARIS) (Maritime Theater Missile Defense Forum) | | | |
| FY 2011 Plans: | | | |
| - Technology Risk Reduction of Digital Array Radar (DAR) / digital beamforming, array architectures, Transmit/Receive (T/R) modules, thermal management, and Radio Frequency (RF) semiconductors | | | |
| - Critical component and subsystem demonstrations, integration and testing | | | |

UNCLASSIFIED

| | | | | |
|---|--|--|----------------|----------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604501N: <i>Advanced Above Water Sensors</i> | PROJECT 3186: <i>Air and Missile Defense Radar</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| <ul style="list-style-type: none"> - Continue and complete related international cooperative research projects, including ARTIST (U.K.), AUSPAR (Australia), and OARIS (Maritime Theater Missile Defense Forum) <p>FY 2012 Plans:</p> <ul style="list-style-type: none"> - Gallium Nitride (GaN) High Power Amplifier (HPA) performance, reliability, and producibility improvement. - Technology Risk Reduction of Digital Array Radar (DAR) / digital beamforming, array architectures, Transmit/Receive (T/R) modules, thermal management, and Radio Frequency (RF) semiconductors - Critical component and subsystem demonstrations, integration and testing | | | | |
| <p>Title: SYSTEMS ENGINEERING</p> <p align="right">Articles:</p> <p>FY 2010 Accomplishments:</p> <ul style="list-style-type: none"> - Participate in the development of threat definitions, performance requirements and radar specifications; perform radar systems performance analysis - Complete system requirements; resolve combat system and ship interfaces - Initiate government/industry interaction through a series of In-Process Reviews to assess system concepts and develop a technology demonstration plan - Complete Systems Engineering Plan and Test and Evaluation Strategy for Milestone 'A' - Conduct AMDR competition and award Technology Development (TD) contracts - Initiate TD phase focused on demonstrating AMDR key technologies are scalable and sufficiently mature - Initiate documentation for AMDR-S/RSC and AMDR-X EMD contract awards <p>FY 2011 Plans:</p> <ul style="list-style-type: none"> - Continue TD phase focused on demonstrating AMDR key technologies are scalable and sufficiently mature - Complete the Technology Demonstration Plan - Review preliminary system concept and prototype design - Mature the AMDR suite system concept to a level sufficient to support a Preliminary Design Review (PDR) - Initiate development of Test and Evaluation Master Plan - Review system requirements and combat system/ship interfaces - Update Systems Engineering Plan - Continue documentation development for AMDR-S/RSC and AMDR-X EMD contract awards - Issue RFP and conduct competition for AMDR-X engineering studies contract <p>FY 2012 Plans:</p> <ul style="list-style-type: none"> - Conduct Preliminary Design Reviews with each TD contractor | | 143.541 0 | 208.991 0 | 157.926 0 |

UNCLASSIFIED

| | | | | |
|---|--|--|----------------|----------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604501N: <i>Advanced Above Water Sensors</i> | PROJECT 3186: <i>Air and Missile Defense Radar</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| <ul style="list-style-type: none"> - Conduct the technology development component and prototype testing - Analyze and review prototype test results - Conduct Technology Readiness Level assessments - Award AMDR-X Engineering Studies contract - Complete Technology Development Phase contracts | | | | |
| <p>Title: PROGRAM MANAGEMENT SUPPORT</p> <p align="right">Articles:</p> | | 3.603 0 | 7.165 0 | 4.433 0 |
| <p>FY 2010 Accomplishments:</p> <ul style="list-style-type: none"> - In-house, field activity, and contractor support of Integrated Product Teams (IPTs) and Cross Product Teams (CPTs) required for program execution milestones and achievement of Milestone 'A' - Cost, schedule and performance management, contract administration and oversight, risk identification and mitigation - Analyze and assess contractor studies - Review available/proposed technical alternatives | | | | |
| <p>FY 2011 Plans:</p> <ul style="list-style-type: none"> - In-house, field activity, and contractor support of Integrated Product Teams (IPTs) and Cross Product Teams (CPTs) required for program execution and achievement of Milestone 'B' in FY13 - Cost, schedule and performance management, contract administration and oversight, risk identification and mitigation - Analyze and assess contractor studies - Review available/proposed technical alternatives | | | | |
| <p>FY 2012 Plans:</p> <ul style="list-style-type: none"> - In-house, field activity, and contractor support of Integrated Product Teams (IPTs) and Cross Product Teams (CPTs) required for program execution and achievement of Milestone 'B' in FY13 - Cost, schedule and performance management, contract administration and oversight, risk identification and mitigation - Analyze and assess contractor studies - Review available/proposed technical alternatives | | | | |
| Accomplishments/Planned Programs Subtotals | | 164.870 | 228.436 | 166.568 |

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604501N: <i>Advanced Above Water Sensors</i> | PROJECT 3186: <i>Air and Missile Defense Radar</i> |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

AMDR: Plans for the Air and Missile Defense Radar are to leverage research and development investments, integrate sufficiently matured fundamental advanced technologies from technology risk reduction efforts, and incorporate Open Architecture approaches to develop a scalable radar design with major improvements in power, sensitivity, resistance to natural and man-made environments over current radar systems for simultaneous multi-mission (BMD), Area and Self Defense Anti-Air Warfare (AAW). System design will be accomplished by employing proven technologies and commercial standards to lower schedule risk and develop a product with the lowest life-cycle cost.

Program scope consists of the following phases: a Concept Studies phase; a Technology Development phase which includes competitive prototyping; an EMD phase which includes completion of a full Engineering Development Model (EDM) for land-based testing; and transition to production. This scope is defined in the approved acquisition strategy contained in the Technology Development Strategy (TDS) for the AMDR suite system concept.

E. Performance Metrics

- Successfully complete Defense Acquisition Board (DAB) Review
- Successfully complete AMDR Concept Studies
- Successfully achieve Milestone A
- Successfully complete Technology Development (TD) phase Test Readiness Review, TD Prototype testing, TD System Functional Review, and TD Preliminary Design Review

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604501N: <i>Advanced Above Water Sensors</i> | PROJECT 3186: <i>Air and Missile Defense Radar</i> |
|---|--|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Risk Reduction | WR | SCSC Wallops:Wallops Island, VA | 9.638 | 1.067 | Mar 2011 | - | | - | | - | Continuing | Continuing | Continuing |
| Risk Reduction | MIPR | DMEA:McClellen AFB, CA | 48.022 | - | Mar 2011 | - | | - | | - | Continuing | Continuing | Continuing |
| Risk Reduction | SS/CPFF | JHU/APL:Baltimore, MD | 7.745 | 2.746 | Dec 2010 | - | | - | | - | Continuing | Continuing | Continuing |
| Risk Reduction | MIPR | MIT:Cambridge, MA | 1.771 | 0.746 | Mar 2011 | - | | - | | - | Continuing | Continuing | Continuing |
| Risk Reduction | WR | NRL:Washington, DC | 5.802 | 1.555 | Mar 2011 | - | | - | | - | Continuing | Continuing | Continuing |
| Risk Reduction | C/CPAF | BAE Systems:Rockville, MD | 1.980 | - | | - | | - | | - | 0.000 | 1.980 | |
| Systems Engineering | WR | NAVFAC MID-ATLANTIC:Pearl Harbor, HI | 4.026 | - | | - | | - | | - | 0.000 | 4.026 | |
| Risk Reduction | C/CPFF | SPA-PSS:Alexandria, VA | 1.237 | 2.317 | Dec 2010 | - | | - | | - | Continuing | Continuing | Continuing |
| Risk Reduction | WR | NSWC/DD:Dahlgren, VA | 3.993 | 3.274 | Dec 2010 | - | | - | | - | Continuing | Continuing | Continuing |
| Risk Reduction | MIPR | DARPA:Adelphi, MD | 4.500 | 0.575 | Mar 2011 | 4.209 | Dec 2011 | - | | 4.209 | Continuing | Continuing | Continuing |
| Systems Engineering | SS/CPFF | GTRI:Atlanta, GA | 3.198 | 2.166 | Mar 2011 | 1.526 | Dec 2011 | - | | 1.526 | Continuing | Continuing | Continuing |
| Systems Engineering | SS/FFP | BAE Systems:Rockville, MD | 9.536 | - | | - | | - | | - | 0.000 | 9.536 | |
| Systems Engineering | Various | VARIOUS-SPECIAL:Special | 3.078 | - | | - | | - | | - | 0.000 | 3.078 | |
| Systems Engineering | WR | NSWC/DD:Dahlgren, VA | 31.497 | 22.045 | Dec 2010 | 20.269 | Dec 2011 | - | | 20.269 | Continuing | Continuing | Continuing |
| Systems Engineering | WR | PMRF:Kekaha, HI | 0.774 | 0.676 | Mar 2011 | 1.344 | Dec 2011 | - | | 1.344 | Continuing | Continuing | Continuing |
| Systems Engineering | SS/CPFF | JHU/APL:Baltimore, MD | 30.774 | 21.359 | Dec 2010 | 17.022 | Dec 2011 | - | | 17.022 | Continuing | Continuing | Continuing |
| Systems Engineering | MIPR | MIT:Cambridge, MA | 8.378 | 5.641 | Mar 2011 | 3.865 | Dec 2011 | - | | 3.865 | Continuing | Continuing | Continuing |
| Systems Engineering | WR | NSWC/PHD:Port Hueneme, CA | 3.683 | 3.053 | Dec 2010 | 4.549 | Dec 2011 | - | | 4.549 | Continuing | Continuing | Continuing |
| Systems Engineering | WR | NSWC/CR:Crane, IN | 1.407 | 1.016 | Dec 2010 | 1.246 | Dec 2011 | - | | 1.246 | Continuing | Continuing | Continuing |
| Systems Engineering | WR | NRL:Washington, DC | 2.679 | 1.166 | Mar 2011 | 2.024 | Dec 2011 | - | | 2.024 | Continuing | Continuing | Continuing |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604501N: <i>Advanced Above Water Sensors</i> | PROJECT 3186: <i>Air and Missile Defense Radar</i> |
|---|--|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|--|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Systems Engineering | C/FPIF | TBD-Tech. Development Phase:TBD | - | - | | 83.156 | Dec 2011 | - | | 83.156 | Continuing | Continuing | Continuing |
| Systems Engineering | C/CPFF | SPA-PSS:Alexandria, VA | 3.334 | 8.540 | Dec 2010 | 7.661 | Dec 2011 | - | | 7.661 | Continuing | Continuing | Continuing |
| Systems Engineering | WR | COMPTEVFOR:Norfolk, VA | 0.001 | 0.433 | Mar 2011 | 0.447 | Dec 2011 | - | | 0.447 | Continuing | Continuing | Continuing |
| Systems Engineering | C/FFP | CS-Northrop Grumman:Linthicum Heights, MD | 10.000 | - | | - | | - | | - | 0.000 | 10.000 | |
| Systems Engineering | C/FFP | CS-Lockheed Martin:Moorestown, NJ | 10.000 | - | | - | | - | | - | 0.000 | 10.000 | |
| Systems Engineering | C/FFP | CS-Raytheon:Sudbury, MA | 9.909 | - | | - | | - | | - | 0.000 | 9.909 | |
| Systems Engineering | WR | NSWC/PHD (VAB):Virginia Beach, VA | 0.124 | 0.424 | Dec 2010 | 0.363 | Nov 2011 | - | | 0.363 | 0.000 | 0.911 | |
| Systems Engineering | C/FP | Program Office System Engineering Staff:Washington, DC | 0.725 | 1.100 | Mar 2011 | 0.941 | Dec 2011 | - | | 0.941 | 0.000 | 2.766 | |
| Systems Engineering | C/FP | TBD-Engineering Studies:TBD | - | - | | 5.200 | Feb 2012 | - | | 5.200 | 0.000 | 5.200 | |
| Systems Engineering | SS/CPFF | INTEGRITS (via KRATOS):San Diego, CA | 0.055 | - | | 0.122 | Dec 2011 | - | | 0.122 | 0.000 | 0.177 | |
| Systems Engineering | WR | NAWC AD:Patuxent River, MD | 0.005 | 0.483 | Mar 2011 | 7.997 | Dec 2011 | - | | 7.997 | 0.000 | 8.485 | |
| Systems Engineering | WR | SCSC Wallops:Wallops Island, VA | 0.037 | - | Mar 2011 | 0.125 | Dec 2011 | - | | 0.125 | 0.000 | 0.162 | |
| Systems Engineering | WR | SPAWAR:San Diego, CA | 0.028 | - | | 0.069 | Dec 2011 | - | | 0.069 | 0.000 | 0.097 | |
| Systems Engineering | C/FPIF | TD Contractor Raytheon:Sudbury, MA | 38.431 | 46.963 | Mar 2011 | - | | - | | - | 0.000 | 85.394 | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604501N: <i>Advanced Above Water Sensors</i> | PROJECT 3186: <i>Air and Missile Defense Radar</i> |
|---|--|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Systems Engineering | C/FPIF | TD Contractor Northrop Grumman:Linthicum Heights, MD | 38.431 | 46.963 | Mar 2011 | - | | - | | - | 0.000 | 85.394 | |
| Systems Engineering | C/FPIF | TD Contractor Lockheed Martin:Moorestown, NJ | 38.431 | 46.963 | Mar 2011 | - | | - | | - | 0.000 | 85.394 | |
| Subtotal | | | 333.229 | 221.271 | | 162.135 | | - | | 162.135 | | | |

Remarks
Engineering Studies and Engineering & Manufacturing Development Phase procurements are in a competitive status and contracts have not yet been awarded.

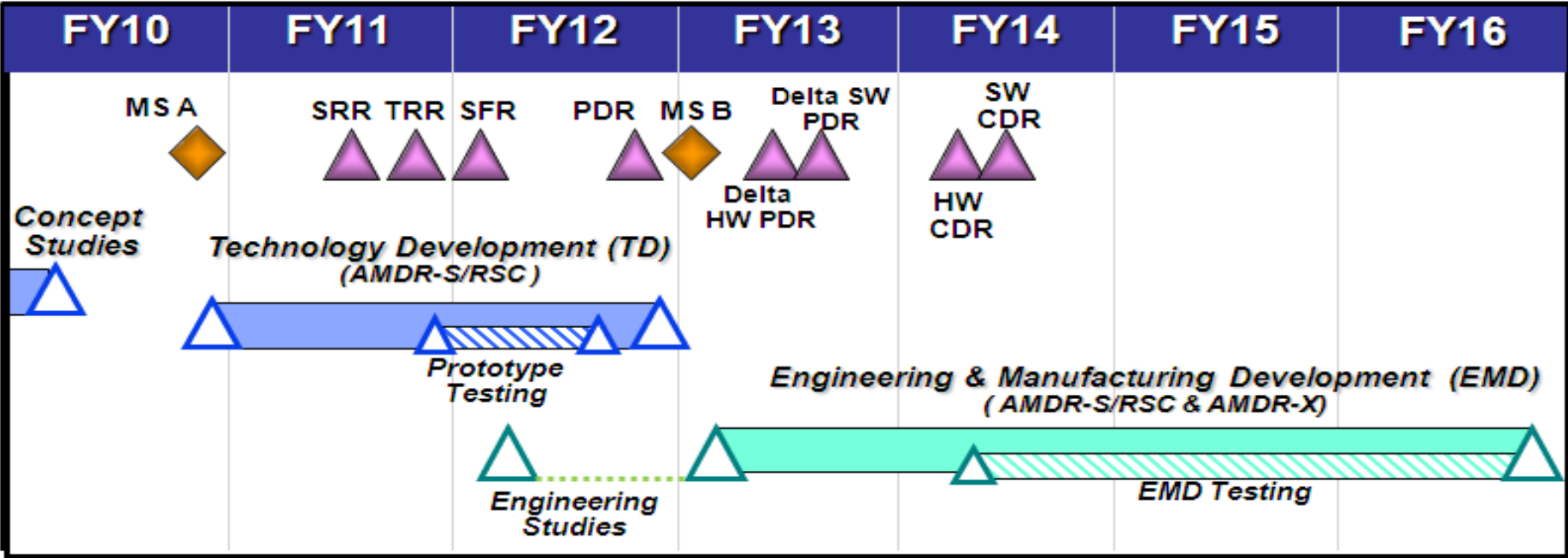
| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Support Management Services | SS/FFP | BAE Systems:Rockville, MD | 5.319 | - | | - | | - | | - | 0.000 | 5.319 | |
| Support Management Services | C/CPFF | SPA-PSS:Alexandria, VA | 3.232 | 5.974 | Dec 2010 | 3.414 | Dec 2011 | - | | 3.414 | Continuing | Continuing | Continuing |
| Travel | Allot | PEOIS2:Washington, DC | 0.311 | 0.333 | Mar 2011 | 0.285 | Nov 2011 | - | | 0.285 | Continuing | Continuing | Continuing |
| DAWDF | Various | N/A:N/A | 0.513 | - | | - | | - | | - | 0.000 | 0.513 | |
| Support Management Services | WR | NSWC/PHD:Port Hueneme, CA | 0.260 | 0.858 | Dec 2010 | 0.734 | Nov 2011 | - | | 0.734 | 0.000 | 1.852 | |
| Subtotal | | | 9.635 | 7.165 | | 4.433 | | - | | 4.433 | | | |

| | Total Prior Years Cost | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|------------------------|---------|---------|--------------|---------|-------------|---|---------------|------------------|------------|--------------------------|
| Project Cost Totals | | 342.864 | 228.436 | | 166.568 | | - | 166.568 | | | |

Remarks

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604501N: <i>Advanced Above Water Sensors</i> | PROJECT 3186: <i>Air and Missile Defense Radar</i> |



2011-01-18, 1200

| | |
|-----|---------------------------|
| CDR | Critical Design Review |
| DAB | Defense Acquisition Board |
| MS | Milestone |
| PDR | Preliminary Design Review |
| RSC | Radar Suite Controller |
| SFR | System Functional Review |
| SRR | System Readiness Review |
| TRR | Test Readiness Review |

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604501N: <i>Advanced Above Water Sensors</i> | PROJECT 3186: <i>Air and Missile Defense Radar</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 3186 | | | | |
| Concept Studies (CS) | 1 | 2010 | 1 | 2010 |
| Milestone A (MS A) | 4 | 2010 | 4 | 2010 |
| Technology Development (TD) | 4 | 2010 | 4 | 2012 |
| System Readiness Review (SRR) | 3 | 2011 | 3 | 2011 |
| TD Test Readiness Review (TRR) | 4 | 2011 | 4 | 2011 |
| TD Prototype Testing | 4 | 2011 | 3 | 2012 |
| TD System Functional Review (SFR) | 1 | 2012 | 1 | 2012 |
| TD Preliminary Design Review (PDR) | 3 | 2012 | 3 | 2012 |
| Engineering Studies | 2 | 2012 | 2 | 2013 |
| Milestone B (MS B) | 1 | 2013 | 1 | 2013 |
| Engineering & Manufacturing Development (EMD) | 1 | 2013 | 4 | 2016 |
| EMD HW Delta PDR | 2 | 2013 | 2 | 2013 |
| EMD SW / System Delta PDR | 3 | 2013 | 3 | 2013 |
| EMD HW Critical Design Review (CDR) | 2 | 2014 | 2 | 2014 |
| EMD SW / System Critical Design Review (CDR) | 3 | 2014 | 3 | 2014 |
| EMD Testing | 2 | 2014 | 4 | 2016 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604501N: <i>Advanced Above Water Sensors</i> | PROJECT 3187: <i>Periscope Detection</i> |
|---|--|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|----------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 3187: <i>Periscope Detection</i> | 6.942 | 3.374 | 14.509 | - | 14.509 | 1.733 | - | - | - | 0.000 | 26.558 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Periscope Detection: The CVN Periscope Detection Radar program develops and delivers the capability which provides automatic detection and discrimination of submarine periscopes using advanced using advanced algorithms enabling discrimination of periscopes from surface contacts, buoys, small boats, floating mines, etc. This effort was initially based on an advanced development model, developed in PE 0603553N, Surface Antisubmarine Warfare. System Engineering efforts under RDT&E funding will convert the Advanced Demonstration Model (ADM) variant previously developed and being installed to a production representative model that addresses manufacturability, supportability and reliability aspects as well as full system certification. In addition, funding will develop the Periscope Detection and Discrimination (PDD) Interface for AN/SPQ-9B Radar.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| Title: Periscope Detection | 6.942 | 3.374 | 14.509 |
| Articles: | 0 | 0 | 0 |
| FY 2010 Accomplishments: FY 2010 Accomplishments: Installed ADM on platforms. Developed system requirements for SPS-74(V)2. | | | |
| FY 2011 Plans: FY 2011 Plans: Continue design and development of AN/SPS-74(V)2 and conduct Critical Design Review (CDR). Perform AN/SPS-74(V)2 Environmental Qualification Testing and below deck shock testing. | | | |
| FY 2012 Plans: FY 2012 Base Plans: Conduct First Article Test; Install Land Based Test Site (LBTS) System; Perform Software Verification; Conduct Factory Acceptance Test on First Article System; Conduct planning and preparation for Developmental Testing/Operational Testing (DT/OT); and Develop AN/SPQ-9B Radar PDD Interface. | | | |
| Accomplishments/Planned Programs Subtotals | 6.942 | 3.374 | 14.509 |

UNCLASSIFIED

| | |
|--|----------------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | DATE: February 2011 |
|--|----------------------------|

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604501N: <i>Advanced Above Water Sensors</i> | PROJECT 3187: <i>Periscope Detection</i> |
|---|--|--|

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> <u>Base</u> | <u>FY 2012</u> <u>OCO</u> | <u>FY 2012</u> <u>Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
|--|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| • PE/LI: 0204228N/2040 Radar Support (OPN) | 9.927 | 12.027 | 18.818 | 0.000 | 18.818 | 13.255 | 15.873 | 6.122 | 4.457 | Continuing | Continuing |

D. Acquisition Strategy

Current Program supports 11 total units - 10 for installation onboard CVNs (includes upgrade of 4 Advanced Demonstration Models (ADMs) from (V)1 to (V)2 configuration) and 1 LBTS.

E. Performance Metrics

- Successfully complete TECHEVAL/OPEVAL
- Successfully complete AN/SPQ-9B PDD Interface Development

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604501N: <i>Advanced Above Water Sensors</i> | PROJECT 3187: <i>Periscope Detection</i> |
|---|--|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| System Engineering | SS/CPFF | NGC:Melville, NY | 14.950 | 2.744 | Mar 2011 | 13.924 | Dec 2011 | - | | 13.924 | 0.000 | 31.618 | |
| System Installation | SS/CPFF | 3 Phoenix:Fairfax, VA | 13.352 | - | | - | | - | | - | 0.000 | 13.352 | |
| Subtotal | | | 28.302 | 2.744 | | 13.924 | | - | | 13.924 | 0.000 | 44.970 | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| Test and Evaluation | WR | NSWC/Dahlgren:Dahlgren, VA | - | 0.250 | Mar 2011 | - | | - | | - | 0.000 | 0.250 | |
| Test and Evaluation | WR | NSWC PHD:Port Hueneme, CA | 0.690 | 0.380 | Mar 2011 | 0.310 | Dec 2011 | - | | 0.310 | 0.000 | 1.380 | |
| Test and Evaluation | WR | OPTEVFOR:Norfolk, VA | 0.200 | - | Mar 2011 | 0.275 | Dec 2011 | - | | 0.275 | 0.000 | 0.475 | |
| Subtotal | | | 0.890 | 0.630 | | 0.585 | | - | | 0.585 | 0.000 | 2.105 | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| DAWDF | Allot | N/A:N/A | 0.036 | - | | - | | - | | - | 0.000 | 0.036 | |
| Subtotal | | | 0.036 | - | | - | | - | | - | 0.000 | 0.036 | |

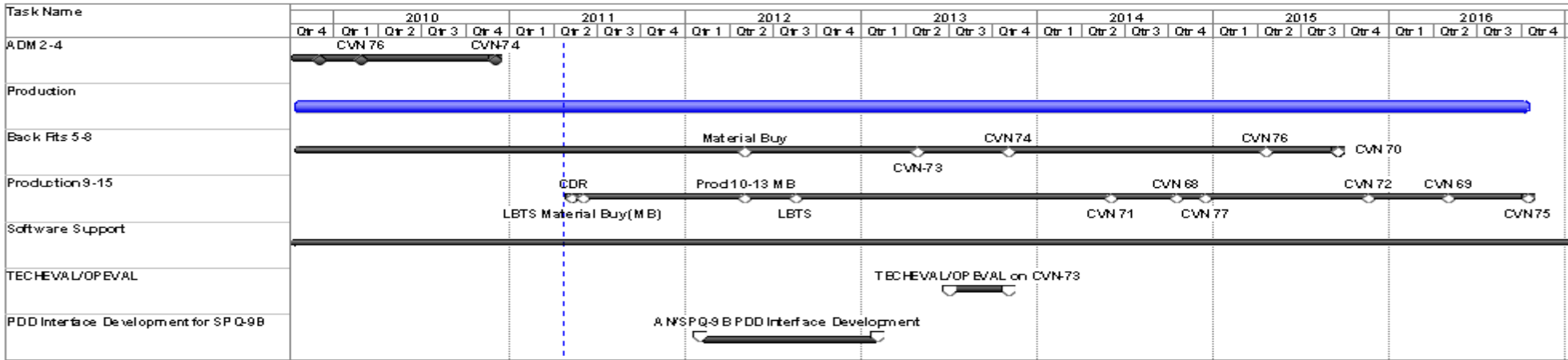
| | | | Total Prior Years Cost | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|--|--|------------------------|---------|--|--------------|--|-------------|--|---------------|------------------|------------|--------------------------|
| Project Cost Totals | | | 29.228 | 3.374 | | 14.509 | | - | | 14.509 | 0.000 | 47.111 | |

Remarks

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604501N: <i>Advanced Above Water Sensors</i> | PROJECT 3187: <i>Periscope Detection</i> |



UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604501N: <i>Advanced Above Water Sensors</i> | PROJECT 3187: <i>Periscope Detection</i> |
|---|--|--|

Schedule Details

| Events by Sub Project | Start | | End | |
|--------------------------------------|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| <i>Proj 3187</i> | | | | |
| Advanced Demonstration Model (ADM) | 1 | 2010 | 4 | 2010 |
| Production | 1 | 2010 | 3 | 2016 |
| Software Support | 1 | 2010 | 4 | 2016 |
| AN/SPS-74(V)2 CDR | 2 | 2011 | 2 | 2011 |
| AN/SPS-74(V)2 LBTS Installation | 1 | 2013 | 1 | 2013 |
| TECHEVAL/OPEVAL on CVN 73 | 2 | 2013 | 4 | 2013 |
| PDD Interface Development for SPQ-9B | 4 | 2011 | 4 | 2012 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604501N: <i>Advanced Above Water Sensors</i> | PROJECT 3188: <i>Dual-Band Radar</i> |
|---|--|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 3188: <i>Dual-Band Radar</i> | 5.465 | 5.419 | 10.291 | - | 10.291 | 7.111 | 7.088 | 5.371 | 5.413 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Dual-Band Radar (DBR) Upgrades: Funding is for Dual Band Radar (DBR) System upgrades to implement cost savings initiatives for Volume Search Radar (VSR) modifications, supportability analysis and associated logistics product updates; future upgrades/technology insertion efforts for Multi-Function Radar (MFR)/VSR as a part of the DBR suite on CVN 78 Class ships and the MFR on DDG 1000 Class ships. Funding is also required to resolve the hardware and software issues discovered during the various test events to include: DTB2-411, SDTS testing, Land Based Testing and pertinent At-Sea test events. The upgrades will include all aspects of the radar system/subsystems, including hardware and software. Specific subsystem areas include the Array, Transmit/Receive (T/R) module, Receiver/Exciter, Signal Data Processor, Radome, and power/cooling systems. Upgrades and technology insertions are required to maintain the level of force protection needed for ship defense against all threats envisioned in the littoral environment. The supportability analysis and logistic products associated with these upgrades will also be developed and updated.

DBR interface with Battle Force Tactical Trainer (BFTT): FY12-14 supports the design, development, and testing of an interface between the DBR and BFTT (AN/USQ-46) system that will provide training to enhance combat readiness for the CVN 78 crew. The DBR/BFTT interface development project initiates with the FY12 contract award and continues with validation testing in FY14.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|--|---------|---------|---------|
| Title: RADAR UPGRADES TECHNOLOGY INSERTION | - | 1.500 | 5.870 |
| Articles: | | 0 | 0 |
| FY 2011 Plans: - Continue technology insertion for the MFR/VSR/DBR hardware and software and development/updates to associated logistics products | | | |
| FY 2012 Plans: - Technology Insertion for the MFR/VSR/DBR hardware and software and development/updates to associated logistics products - Commence software development to implement live over simulation training capability in support of BFTT integration | | | |
| Title: RADAR UPGRADES GOVERNMENT ENGINEERING SERVICES | 5.265 | 3.719 | 3.771 |
| Articles: | 0 | 0 | 0 |
| FY 2010 Accomplishments: | | | |

UNCLASSIFIED

| | |
|--|----------------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | DATE: February 2011 |
|--|----------------------------|

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604501N: <i>Advanced Above Water Sensors</i> | PROJECT 3188: <i>Dual-Band Radar</i> |
|---|--|--|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|--|------------|------------|------------|
| <ul style="list-style-type: none"> - Provide Government Engineering Services support for radar upgrades and technology insertion of the MFR/VSR/DBR radars. Perform oversight and assessment of efforts associated with this phase of the program. <p>FY 2011 Plans:</p> <ul style="list-style-type: none"> - Provide Government Engineering Services support for radar upgrades and technology insertion of the MFR/VSR/DBR radars. Perform oversight and assessment of efforts associated with this phase of the program. <p>FY 2012 Plans:</p> <ul style="list-style-type: none"> - Provide Government Engineering Services support for radar upgrades and technology insertion of the MFR/VSR/DBR radars. Perform oversight and assessment of efforts associated with this phase of the program. - Provide Government Engineering Services to support DBR BFTT integration for CVN 78. | | | |
| <p>Title: RADAR UPGRADES PROGRAM MANAGEMENT</p> <p align="right">Articles:</p> | 0.200 0 | 0.200 0 | 0.650 0 |
| <p>FY 2010 Accomplishments:</p> <ul style="list-style-type: none"> - Provide Program Management and logistics support for radar upgrades and technology insertion <p>FY 2011 Plans:</p> <ul style="list-style-type: none"> - Provide Program Management and logistics support for radar upgrades and technology insertion <p>FY 2012 Plans:</p> <ul style="list-style-type: none"> - Provide Program Management and logistics support for radar upgrades and technology insertion - Provide Program Management and logistics Support for DBR BFTT integration for CVN 78 | | | |
| Accomplishments/Planned Programs Subtotals | 5.465 | 5.419 | 10.291 |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

Radar Upgrades and logistic products will be developed to address lessons learned and technology refresh for DBR systems on multiple ship classes.

E. Performance Metrics

- Successfully complete upgrade studies and analyses
- Successfully complete upgrade technology insertion
- Successfully complete development of logistic products
- Implement supportability analysis to improve supportability and reduce overall lifecycle cost.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604501N: <i>Advanced Above Water Sensors</i> | PROJECT 3188: <i>Dual-Band Radar</i> |
|---|--|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Government Engineering Support | WR | Other Government Activities:Not Specified | 1.143 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Government Engineering Support | WR | NSWC/Dahlgren:Dahlgren, VA | 1.780 | 1.000 | Jan 2011 | 1.248 | Dec 2011 | - | | 1.248 | Continuing | Continuing | Continuing |
| Government Engineering Support | WR | NSWC/PHD:Port Hueneme, CA | 1.645 | 0.703 | Dec 2010 | 1.050 | Dec 2011 | - | | 1.050 | Continuing | Continuing | Continuing |
| Government Engineering Support | WR | NSWC/Crane:Crane, IN | 3.725 | 0.435 | Mar 2011 | 0.300 | Dec 2011 | - | | 0.300 | Continuing | Continuing | Continuing |
| Government Engineering Support | WR | NRL:Washington, DC | 3.725 | 0.050 | Mar 2011 | 0.050 | Dec 2011 | - | | 0.050 | Continuing | Continuing | Continuing |
| Government Engineering Support | SS/CPFF | JHU/APL:Baltimore, MD | 0.240 | 0.132 | Mar 2011 | 0.175 | Dec 2011 | - | | 0.175 | Continuing | Continuing | Continuing |
| Government Engineering Support | MIPR | NSMA:Arlington, VA | 0.900 | 0.100 | Mar 2011 | 0.100 | Feb 2012 | - | | 0.100 | Continuing | Continuing | Continuing |
| Government Engineering Support | SS/CPFF | GTRI:Atlanta, GA | 0.150 | 0.160 | Mar 2011 | 0.100 | Feb 2012 | - | | 0.100 | Continuing | Continuing | Continuing |
| Government Engineering Support | SS/CPFF | TSC:Silver Spring, MD | - | 0.100 | Mar 2011 | - | | - | | - | 0.000 | 0.100 | |
| Government Engineering Support | WR | ONR:Washington, DC | - | 0.989 | Mar 2011 | 0.698 | Dec 2011 | - | | 0.698 | 0.000 | 1.687 | |
| Systems Engineering | SS/CPFF | Raytheon:Raytheon, Sudbury, MA | 9.140 | 1.500 | Dec 2010 | 5.870 | Dec 2011 | - | | 5.870 | Continuing | Continuing | Continuing |
| Subtotal | | | 22.448 | 5.169 | | 9.591 | | - | | 9.591 | | | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Program Management Support | Various | Various:Various | 0.400 | 0.200 | Dec 2010 | 0.650 | Dec 2011 | - | | 0.650 | Continuing | Continuing | Continuing |
| DAWDF | Allot | N/A:N/A | 0.027 | - | | - | | - | | - | 0.000 | 0.027 | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604501N: <i>Advanced Above Water Sensors</i> | PROJECT 3188: <i>Dual-Band Radar</i> |
|---|--|--|

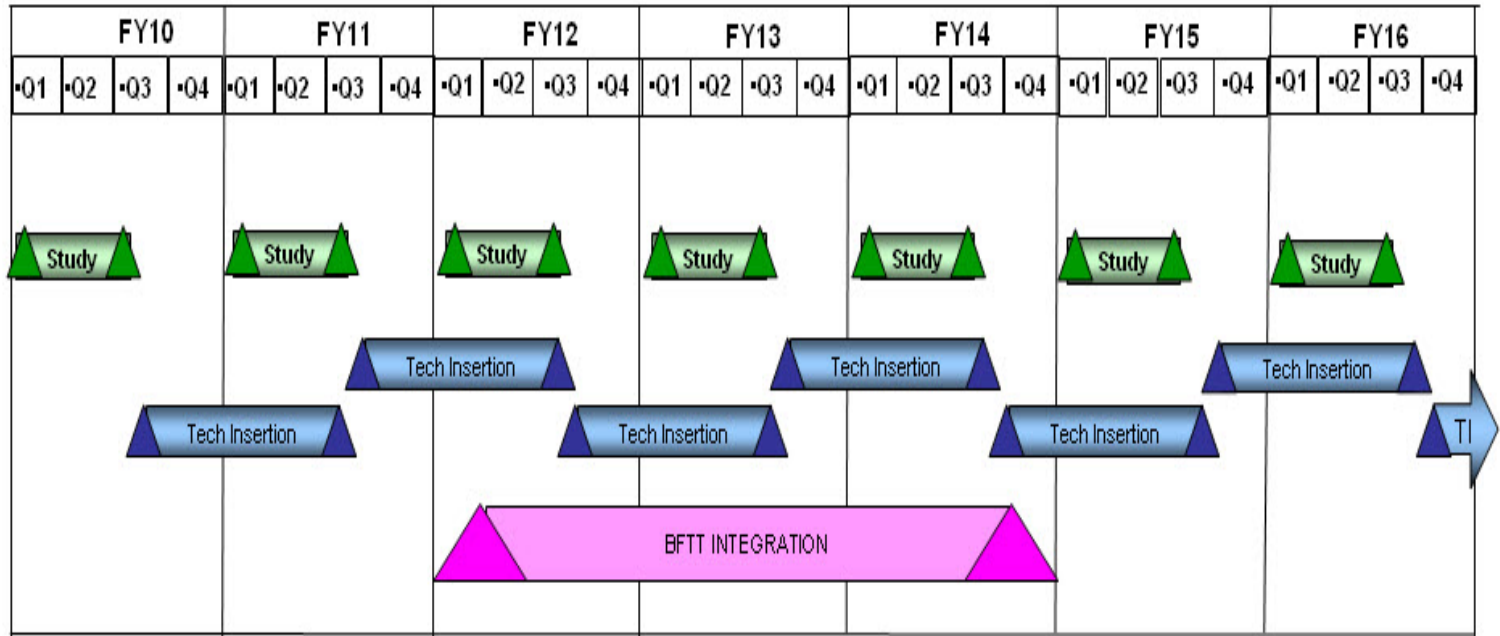
| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Travel | Allot | PEOIEWS2:Washington, DC | - | 0.050 | Mar 2011 | 0.050 | Dec 2011 | - | | 0.050 | 0.000 | 0.100 | |
| Subtotal | | | 0.427 | 0.250 | | 0.700 | | - | | 0.700 | | | |
| Project Cost Totals | | | 22.875 | 5.419 | | 10.291 | | - | | 10.291 | | | |

Remarks

UNCLASSIFIED

| | | | | | | |
|---|--|--|----------------------------|--|--|--|
| Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy | | | DATE: February 2011 | | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | R-1 ITEM NOMENCLATURE PE 0604501N: <i>Advanced Above Water Sensors</i> | | | PROJECT 3188: <i>Dual-Band Radar</i> | |

DBR System Upgrades



Note: Supportability Analysis is conducted in conjunction with the Study.

Hardware, software and logistic product updates are conducted in conjunction with the Tech Insertion and CVN 78 BFTT Integration.

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604501N: <i>Advanced Above Water Sensors</i> | PROJECT 3188: <i>Dual-Band Radar</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| <i>Proj 3188</i> | | | | |
| DBR System Upgrade Studies and Analysis | 1 | 2010 | 3 | 2016 |
| DBR System Upgrade Technology Insertion | 3 | 2010 | 4 | 2016 |
| DBR BFTT Integration for CVN 78 | 1 | 2012 | 4 | 2014 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604501N: <i>Advanced Above Water Sensors</i> | PROJECT 3232: <i>Multi-Mission Signal Processor</i> |
|---|--|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 3232: <i>Multi-Mission Signal Processor</i> | 52.649 | 32.607 | 32.361 | - | 32.361 | 25.778 | 14.989 | 19.324 | 19.638 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Multi-Mission Signal Processor (MMSP): The development of Multi-Mission Signal Processor (MMSP) provides Anti-Air Warfare (AAW)/Ballistic Missile Defense (BMD) Multi-mission capability for DDG 51-78 and CG 65 - 73 as part of AEGIS Modernization Program. This capability will be utilized for DDG 113 and follow new construction and AEGIS Ashore. Modifies SPY-1B(V)/D Transmitter to enable dual beam for reduced frame times and better reaction time, and provides stability for all D(V) waveforms and avoid operational degradation. The SPY-1 radar system detects, tracks and supports engagements of a broader range of threats. MMSP improves performance in littoral, ducted clutter environments, and in electronic attack (EA), and chaff environments and provides greater commonality in computer programs and equipment.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| Title: SYSTEMS ENGINEERING | 52.649 | 32.607 | 32.361 |
| Articles: | 0 | 0 | 0 |
| FY 2010 Accomplishments: | | | |
| <ul style="list-style-type: none"> - Completed Production Readiness Review in 3rd Quarter of FY10 - Completed first live BMD Narrow Band Track event May 2010 - Finalized requirements definition and alignment with the Ballistic Missile Defense Program for incorporation of the BMD capability - Supported Initial Capability Demonstration at Combat System Engineering Development Site (CSEDS) - MMSP installed and online in Oct 2009 with first live AAW Track in Dec 2009 - Maintained alignment with the Ballistic Missile Defense program and the associated Ballistic Missile Defense Signal Processor (BSP) Adjunct to incorporate BMD capability within MMSP during AEGIS Modernization. | | | |
| FY 2011 Plans: | | | |
| <ul style="list-style-type: none"> - Major focus of FY 11 will be preparation for and completion of an AAW Performance Demo Event - Continue MMSP Design and development - Support MMSP integration testing with ACB-12 to address all MMSP related issues - Complete transmitter modification development - Maintain alignment with the Ballistic Missile Defense Program and the associated Ballistic Missile Defense Signal Processor (BSP) Adjunct to incorporate BMD capability within MMSP during AEGIS Modernization | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604501N: <i>Advanced Above Water Sensors</i> | PROJECT 3232: <i>Multi-Mission Signal Processor</i> |
|---|--|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| - Initiate cruiser variant engineering and design | | | |
| <i>FY 2012 Plans:</i> | | | |
| - Major focus of FY 2012 will be preparation for the Multi-Mission Exercise and Qualification Testing | | | |
| - MMSP Design and development for cruiser variant | | | |
| Accomplishments/Planned Programs Subtotals | 52.649 | 32.607 | 32.361 |

C. Other Program Funding Summary (\$ in Millions)

| Line Item | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---|---------|---------|-----------------|----------------|------------------|---------|---------|---------|---------|---------------------|------------|
| • PE/LI: <i>BLI 2980/OPN Items Less Than \$5M</i> | 29.600 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 29.600 |

D. Acquisition Strategy
Multi-Mission Signal Processor (MMSP) provides AAW/BMD Multi-mission capability for AEGIS Modernization Program and leverages BMD 4.0.1 and SPY-1D(V) designs. This MMSP development efforts support integration of BMD 5.0 signal processing, and will lead to the OPN procurement for shore sites and shipsets.

- E. Performance Metrics**
- Complete MMSP CSEDS AEGIS Light Off (ALO)
 - Complete MMSP Production Readiness Review (PRR)
 - Complete DDG In-Process Review (IPR) #4
 - Complete DDG In-Process Review (IPR) #5
 - Complete SPY-1D(V) Performance Demo
 - Complete CG System Readiness Review (SRR)
 - Complete CG ACB 12 IPR #1
 - Complete Multi-Mission Exercise
 - Complete Qualification Testing
 - Complete CG IPR #2
 - Complete CG IPR #3
 - Complete DDG Combat System Ship Qualification Trials (CSSQT)
 - Complete CG Demo
 - Complete CG ALO
 - Complete CG CSSQT
 - Complete CG Final Certification

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604501N: <i>Advanced Above Water Sensors</i> | PROJECT 3232: <i>Multi-Mission Signal Processor</i> |
|---|--|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| SYSTEM ENGINEERING | SS/CPFF | Lockheed Martin:Moorestown, NJ | 46.798 | 27.858 | Feb 2011 | 27.982 | Dec 2011 | - | | 27.982 | Continuing | Continuing | Continuing |
| SYSTEM ENGINEERING | WR | AEGIS Techrep:Moorestown, NJ | 0.919 | 0.989 | Mar 2011 | 0.853 | Dec 2011 | - | | 0.853 | Continuing | Continuing | Continuing |
| SYSTEM ENGINEERING | SS/FP | APL/JHU:Laurel, MD | 0.849 | 0.756 | Mar 2011 | 0.626 | Dec 2011 | - | | 0.626 | Continuing | Continuing | Continuing |
| SYSTEM ENGINEERING | WR | CSCS:Dahlgren, VA | 0.391 | 0.166 | Mar 2011 | 0.159 | Dec 2011 | - | | 0.159 | Continuing | Continuing | Continuing |
| SYSTEM ENGINEERING | WR | NRL:Washingotn, DC | 0.648 | 0.520 | Mar 2011 | 0.446 | Dec 2011 | - | | 0.446 | Continuing | Continuing | Continuing |
| SYSTEM ENGINEERING | WR | NSWC/DD:Dahlgren, VA | 0.944 | 0.888 | Mar 2011 | 0.830 | Dec 2011 | - | | 0.830 | Continuing | Continuing | Continuing |
| SYSTEM ENGINEERING | WR | NSWC/CR:Crane, IN | 0.696 | 0.457 | Mar 2011 | 0.452 | Dec 2011 | - | | 0.452 | Continuing | Continuing | Continuing |
| SYSTEM ENGINEERING | WR | NSWC/PHD:Port Hueneme, CA | 0.794 | 0.635 | Mar 2011 | 0.586 | Dec 2011 | - | | 0.586 | Continuing | Continuing | Continuing |
| Subtotal | | | 52.039 | 32.269 | | 31.934 | | - | | 31.934 | | | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Travel | Allot | PEOIS2:Washington, DC | 0.060 | 0.040 | Mar 2011 | 0.060 | Dec 2011 | - | | 0.060 | Continuing | Continuing | Continuing |
| PSS | C/CPFF | SPA-PSS:Washington, DC | 0.550 | 0.298 | Mar 2011 | 0.367 | Dec 2011 | - | | 0.367 | Continuing | Continuing | Continuing |
| Subtotal | | | 0.610 | 0.338 | | 0.427 | | - | | 0.427 | | | |

| | Total Prior Years Cost | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|-------------------------------|----------------|--------|---------------------|--------|--------------------|---|----------------------|-------------------------|-------------------|---------------------------------|
| Project Cost Totals | | 52.649 | 32.607 | | 32.361 | | - | 32.361 | | | |

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604501N: *Advanced Above Water Sensors*

PROJECT

3232: *Multi-Mission Signal Processor*

| Fiscal Year | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | 2014 | | | | 2015 | | | | 2016 | | | |
|--------------------|-----------|-----|--------------|---|--------------|---------------------------|-----|---|--------------|--------------|-----------------|---|--------------|---|--------------|---|----------------|----------------|-----------|---|---------------------|---|---|---|------|----|---|----|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| MMSP on Destroyers | CSEDS ALO | PRR | ACB 12 IPR#4 | | ACB 12 IPR#5 | SPY(DIV) Performance Demo | | | MM Exercise | Qual Testing | DDG 63 Delivery | | | | CSSQT | | | | | | COTS Refresh (ECPs) | | | | | | | |
| | ▲10 | ▲4 | ▲5 | | ▲11 | ▲3 | | | ▲12 | ▲2 | ▲4 | | | | ▲7 | | | | | | | | | | | | | |
| MMSP on Cruisers | | | | | | SRR | SFR | | ACB 12 IPR#1 | | | | ACB 12 IPR#2 | | ACB 12 IPR#3 | | CG 65 Delivery | CG ACB 12 DEMO | CG 65 ALO | | | | | | | | | |
| | | | | | | ▲3 | ▲6 | | ▲12 | | | | ▲12 | | ▲6 | | ▲1 | ▲3 | ▲6 | | | | | | ▲10 | ▲3 | | ▲3 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

UNCLASSIFIED

| | | |
|---|--|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604501N: <i>Advanced Above Water Sensors</i> | PROJECT 3232: <i>Multi-Mission Signal Processor</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 3232 | | | | |
| MMSP CSEDS AEGIS Light Off (ALO) | 1 | 2010 | 1 | 2010 |
| MMSP Production Readiness Review (PRR) | 2 | 2010 | 2 | 2010 |
| DDG ACB12 Interim Progress Review (IPR) #4 | 3 | 2010 | 3 | 2010 |
| DDG ACB12 IPR #5 | 1 | 2011 | 1 | 2011 |
| CG ACB 12 IPR #1 | 1 | 2012 | 2 | 2012 |
| SPY-1D(V) Performance Demo | 2 | 2011 | 2 | 2011 |
| CG System Readines Review (SRR) | 2 | 2011 | 2 | 2011 |
| CG System Functional Review (SFR) | 3 | 2011 | 3 | 2011 |
| Multi-Mission (MM) Exercise | 1 | 2012 | 1 | 2012 |
| Qualification Testing | 2 | 2012 | 2 | 2012 |
| DDG Delivery | 2 | 2012 | 2 | 2012 |
| CG ACB 12 IPR #2 | 1 | 2013 | 1 | 2013 |
| CG ACB 12 IPR #3 | 3 | 2013 | 3 | 2013 |
| DDG CSSQT | 4 | 2013 | 4 | 2013 |
| CG ACB 12 Demo | 2 | 2014 | 2 | 2014 |
| CG Delivery | 2 | 2014 | 2 | 2014 |
| CG 65 ALO | 3 | 2014 | 3 | 2014 |
| DDG COTS Refresh (ECPs) | 1 | 2014 | 4 | 2016 |
| CG Combat System Ship Qualification Trials (CSSQT) | 1 | 2016 | 1 | 2016 |
| CG Final Certification | 2 | 2016 | 2 | 2016 |
| CG COTS Refresh (ECPs) | 3 | 2016 | 4 | 2016 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604501N: <i>Advanced Above Water Sensors</i> | PROJECT 3301: <i>Improved Capabilities SPY-1 Radar</i> |
|---|--|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 3301: <i>Improved Capabilities SPY-1 Radar</i> | - | 4.535 | 3.629 | - | 3.629 | 3.515 | 2.069 | 0.940 | 0.959 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Improved Capabilities for SPY-1 Radar: These Reliability, Maintainability, and Availability (RM&A) improvements are intended to reduce cascading failures, mitigate obsolescence issues, and improve reliability in support of Anti-Air Warfare (AAW) and Ballistic Missile Defense (BMD) missions; while still providing AN/SPY-1 Radar Total Ownership Cost Reductions. Improvements will yield reductions in annual fleet maintenance costs.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| Title: Improved Capabilities SPY-1 Radar | - | 4.535 | 3.629 |
| Articles: | | 0 | 0 |
| FY 2011 Plans: | | | |
| - Initial Requirements development and design of 10KW Traveling Wave Tube (TWT) and Continuous Wave Illuminator (CWI) Microwave Tubes | | | |
| - Initial Design and development of sidewall capacitor monitoring circuit for Transmitter High Voltage Power Supply | | | |
| - Initial Design and development and environmental testing for 10kW TWT | | | |
| - Improvements to design of Cathode for MK 99 CWI TWT | | | |
| FY 2012 Plans: | | | |
| - Continue Design and Development of Sidewall Capacitor monitoring circuit for HVPS | | | |
| - Continue Design, Development, Environmental Testing for 10kW TWT | | | |
| - Initiate design improvements to filament for Switch Tube | | | |
| Accomplishments/Planned Programs Subtotals | - | 4.535 | 3.629 |

UNCLASSIFIED

| | |
|--|----------------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | DATE: February 2011 |
|--|----------------------------|

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604501N: <i>Advanced Above Water Sensors</i> | PROJECT 3301: <i>Improved Capabilities SPY-1 Radar</i> |
|---|--|--|

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> <u>Base</u> | <u>FY 2012</u> <u>OCO</u> | <u>FY 2012</u> <u>Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
|--|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| • PE/LI: <i>BLI 2980/OPN Surface Warfare</i> | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.200 | 0.700 | 1.500 | 1.500 | 6.100 | 10.000 |

D. Acquisition Strategy

Improved Capabilities SPY-1 Reliability, Maintainability, and Availability (RM&A) will design and development of an ORDALT Package for fixes and modifications to known transmitter, microwave tube (MWT), and logistic shortcomings (also includes the MK-99 CWI MWT).

E. Performance Metrics

- Complete 10kW Traveling Wave Tube/Continuous Wave Illumination Microwave Tube (TWT/CWI MWT) Improvement Design/Development
- Complete A/B EI Switch Improvement Design/Development
- Complete Sidewall Capacitor Monitoring Circuit
- Complete 10kW Monitoring Circuit development
- Complete Cross-Field Amplifier/Switch Tube (CFA/SWT) MWT Improvement Design Development
- Complete MWT Improvement Design/Development

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604501N: <i>Advanced Above Water Sensors</i> | PROJECT 3301: <i>Improved Capabilities SPY-1 Radar</i> |
|---|--|--|

| Fiscal Year | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | 2014 | | | | 2015 | | | | 2016 | | | |
|--|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Improved Capabilities SPY-1 Radar | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604501N: <i>Advanced Above Water Sensors</i> | PROJECT 3301: <i>Improved Capabilities SPY-1 Radar</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| <i>Proj 3301</i> | | | | |
| 10 kW TWT/CWI MWT Improvement Design/Development | 1 | 2011 | 2 | 2013 |
| Cabinet Modification/Side Wall Capacitor | 1 | 2011 | 2 | 2013 |
| A/B EI Switch Improvement Design/Development | 4 | 2012 | 3 | 2014 |
| TWT Monitoring | 4 | 2012 | 1 | 2014 |
| CFA/SWT MWT Improvement Design Development | 1 | 2013 | 1 | 2015 |
| MWT Improvement Design/Development | 1 | 2015 | 4 | 2016 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604501N: <i>Advanced Above Water Sensors</i> | PROJECT 9999: <i>Congressional Adds</i> |
|---|--|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 9999: <i>Congressional Adds</i> | 16.332 | - | - | - | - | - | - | - | - | 0.000 | 16.332 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Common Digital Sensor Architecture - Congressional Add to execute the AN/SPS-49A(V)1 common digital sensor architecture transmitter modification from system functional requirements to design review. This shall include - developing prototypes to reduce integration and manufacturing risks; ensure operational supportability; reduce the logistics footprint; and implement human systems integration.

Submarine Navigation Decision Aids - Congressional Add to continue the SBIR effort in support of the fielded AN/BPS Radar Voyage Management System (VMS) Subsystem. With the implementation of Electronic Chart Display & Information Systems-Navy (ECDIS-N) on submarines, there is a need to improve related navigation functions which are not currently supported in navigation architectures afloat, referred by the fleet as Navigation Decision Aids.

Advanced Sensor Development - Congressional Add to develop and demonstrate the technology required to sustain supportability solution for deployed above water sensors. Efforts to be performed will be in the technology development phase to include interpreting user needs and operational capabilities, developing system performance and limitation specification, developing functional definitions for technologies, demonstrate system functionality, demonstrate integrated system, and demonstrate and validate systems concepts and technology maturity.

B. Accomplishments/Planned Programs (\$ in Millions)

Congressional Add: Common Digital Sensor Architecture

FY 2010 Accomplishments: - Participate in the development of sensor sustainment definitions, performance requirements and radar specifications; perform radar systems reliability, maintainability, availability, and cost performance analysis.

- Complete system requirements; develop combat system and support domain ship interfaces.
- Initiate government/industry interaction through a series of Technical Interchange Meetings to assess system architecture concepts and develop system sustainment strategies
- Complete / Update Acquisition Strategy, Systems Engineering Plan, Program Management Plan, Supportability Strategy.
- Develop system support architectures

| | FY 2010 | FY 2011 |
|--|---------|---------|
| | 2.390 | - |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604501N: <i>Advanced Above Water Sensors</i> | PROJECT 9999: <i>Congressional Adds</i> |
|---|--|---|

| B. Accomplishments/Planned Programs (\$ in Millions) | FY 2010 | FY 2011 |
|--|----------------|----------------|
| <ul style="list-style-type: none"> - Refine system performance specifications - Develop system functional specifications and system verification plan - Evolve functional performance specifications into design to specifications and product build to documentation | | |
| <p>Congressional Add: Submarine Navigation Decision Aids</p> <p>FY 2010 Accomplishments: - SBIR development of Submarine Navigation Decision Aids (NDA) software in support of ECDIS-N</p> | 3.983 | - |
| <p>Congressional Add: Advanced Sensor Development</p> <p>FY 2010 Accomplishments: - Participate in the development of sensor sustainment definitions, performance requirements and radar specifications; perform radar systems reliability, maintainability, availability, and cost performance analysis.</p> <ul style="list-style-type: none"> - Complete system requirements; develop combat system and support domain ship interfaces. - Initiate government/industry interaction through a series of Technical Interchange Meetings to assess system architecture concepts and develop system sustainment strategies - Complete / Update Acquisition Strategy, Systems Engineering Plan, Program Management Plan, Supportability Strategy. - Develop system support architectures - Refine system performance specifications - Develop system functional specifications and system verification plan - Evolve functional performance specifications into design to specifications and product build to documentation | 9.959 | - |
| Congressional Adds Subtotals | 16.332 | - |

UNCLASSIFIED

| | | |
|---|--|---|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604501N: <i>Advanced Above Water Sensors</i> | PROJECT 9999: <i>Congressional Adds</i> |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

Congressional Add.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604503N: <i>SSN-688 & Trident Modernization</i> |
|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| Total Program Element | 119.629 | 118.897 | 100.591 | - | 100.591 | 87.802 | 90.413 | 82.879 | 112.114 | Continuing | Continuing |
| 0219: <i>Sub Sonar Improvement (ENG)</i> | 55.912 | 71.795 | 64.697 | - | 64.697 | 61.962 | 61.369 | 60.726 | 62.623 | Continuing | Continuing |
| 0742: <i>Sub Integrated Ant System</i> | 36.814 | 29.341 | 22.763 | - | 22.763 | 15.379 | 13.403 | 10.690 | 36.387 | Continuing | Continuing |
| 0775: <i>Submarine Supt Equip Prog</i> | 1.430 | - | 1.271 | - | 1.271 | 1.300 | 1.330 | 1.372 | 1.407 | Continuing | Continuing |
| 1411: <i>Sub Tact Comm System</i> | 20.889 | 17.761 | 11.860 | - | 11.860 | 9.161 | 14.311 | 10.091 | 11.697 | Continuing | Continuing |
| 9999: <i>Congressional Adds</i> | 4.584 | - | - | - | - | - | - | - | - | 0.000 | 4.584 |

A. Mission Description and Budget Item Justification

The Submarine Support Equipment Program develops and improves submarine Electronic Warfare Support (EWS) technology, components, equipment, and systems that will increase submarine operational effectiveness, safety of ship, and survivability in an increasingly dense and sophisticated electromagnetic environment caused by the proliferation of complex radar, communications, and navigation equipment of potential adversaries. Enhancements are necessary for submarine EWS to be operationally effective in the following mission areas: Joint Littoral Warfare, Joint Surveillance, Space and Electronic Warfare and Intelligence Collection, Maritime protection, and Joint Strike.

The Submarine Sonar Improvement Program delivers block updates to Sonar Systems and improved Sensors installed on SSN 688, 688I, SSN 21, VIRGINIA, SSBN, and SSGN Class Submarines to maintain clear acoustical, tactical and operational superiority over submarine and surface combatants in all scenarios through detection, classification, localization, and contact following. Current developments are focused on supporting Littoral Warfare, Regional Sea Denial, Battle Group Support, Diesel Submarine Detection, Surveillance, and Peacetime Engagement.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604503N: <i>SSN-688 & Trident Modernization</i> |
|---|---|

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 120.779 | 118.897 | 105.140 | - | 105.140 |
| Current President's Budget | 119.629 | 118.897 | 100.591 | - | 100.591 |
| Total Adjustments | -1.150 | - | -4.549 | - | -4.549 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | 2.491 | - | | | |
| • SBIR/STTR Transfer | -2.890 | - | | | |
| • Program Adjustments | - | - | -2.757 | - | -2.757 |
| • Section 219 Reprogramming | -0.728 | - | - | - | - |
| • Rate/Misc Adjustments | - | - | -1.792 | - | -1.792 |
| • Congressional General Reductions Adjustments | -0.023 | - | - | - | - |

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 9999: Congressional Adds

Congressional Add: *Improved Submarine Towed Array Systems*

Congressional Add: *AN/BLQ 10A(V) WIDEBAND SIGNAL PROCESSOR*

Congressional Add Subtotals for Project: 9999

Congressional Add Totals for all Projects

| | FY 2010 | FY 2011 |
|---|----------------|----------------|
| | 1.593 | - |
| | 2.991 | - |
| Congressional Add Subtotals for Project: 9999 | 4.584 | - |
| Congressional Add Totals for all Projects | 4.584 | - |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604503N: <i>SSN-688 & Trident Modernization</i> | PROJECT 0219: <i>Sub Sonar Improvement (ENG)</i> |
|---|---|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 0219: <i>Sub Sonar Improvement (ENG)</i> | 55.912 | 71.795 | 64.697 | - | 64.697 | 61.962 | 61.369 | 60.726 | 62.623 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

This program delivers block updates to Sonar Systems installed on SSN 688, 688I, SSN 21, VIRGINIA, SSBN, and SSGN Class Submarines to maintain clear acoustical, tactical and operational superiority over submarines and surface combatants in all scenarios through detection, classification, localization, and contact following.

Acoustics Rapid COTS Insertion (A-RCI) was a multi-phased evolutionary development geared toward addressing acoustic superiority issues through the rapid introduction of interim development products applicable to all classes of submarines. A-RCI Phase I and II introduced Towed Array processing improvements, Phase III introduced Spherical Array processing improvements, and Phase IV provided High Frequency (HF) Array processing improvements for SSN 688I, SSGN, VIRGINIA and SSN 21 Class Submarines. As part of CNO N872's plan to maintain acoustic superiority for in-service submarines, a joint cooperative effort with PEO IWS-5 was established to deliver annual Advanced Processing Builds (APBs) to prevent obsolescence and deliver ongoing capability improvements. The capabilities in the APBs will be integrated as part of A-RCI certified system.

Sensor efforts provide increased operational capabilities for littoral operations, situational awareness, and reliability improvements.

Towed Systems development efforts provide increased operational capabilities and reliability improvements to maintain a clear acoustical, tactical, and operational superiority over submarine and surface combatants. These efforts include development of a Fiber Optic Thinline Towed Array (TB-33) for increased reliability, the Next Generation Fatline Towed Array (TB-34) which provide improved Littoral Operational capability, and the Low Cost Conformal Array, an HF array that provides enhanced situational awareness. Future Sensor development includes enhancements to long range passive detection, continued reliability improvements, and wide area search.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| Title: APB Productionization | 14.976 | 15.816 | 14.474 |
| Articles: | 0 | 0 | 0 |
| FY 2010 Accomplishments: Continued Advanced Processing Build (APB) Sea Testing, Integration, and Certification. This effort is primarily the transition of APB software from development to A-RCI for integration, testing, and formal certification. | | | |
| FY 2011 Plans: | | | |

UNCLASSIFIED

| | | | | |
|---|---|--|----------------|----------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604503N: <i>SSN-688 & Trident Modernization</i> | PROJECT 0219: <i>Sub Sonar Improvement (ENG)</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| Continue Advanced Processing Build (APB) Sea Testing, Integration, and Certification. This effort is primarily the transition of APB software from development to A-RCI for integration, testing, and formal certification. FY 2012 Plans: Continue Advanced Processing Build (APB) Sea Testing, Integration, and Certification. This effort is primarily the transition of APB software from development to A-RCI for integration, testing, and formal certification. | | | | |
| Title: Integration and Testing. | | 38.209 | 41.231 | 39.648 |
| | | Articles: 0 | 0 | 0 |
| FY 2010 Accomplishments: Supported Advanced Processing Builds installed on SSN 688I, SSN 688, SSBN 730, SSN 21, SSGN 726, and VA Class and new sensors TB-34 Towed Arrays, TB-33 Towed Arrays, and Low Cost Conformal Array (LCCA). FY 2011 Plans: Supports Advanced Processing Builds installed on SSN 688I, SSN 688, SSBN 730, SSN 21, SSGN 726, and VA Class and new sensors TB-34 Towed Arrays, TB-33 Towed Arrays, and Low Cost Conformal Array (LCCA). FY 2012 Plans: Supports Advanced Processing Builds installed on SSN 688I, SSN 688, SSBN 730, SSN 21, SSGN 726, and VA Class and new sensors TB-34 Towed Arrays, TB-33 Towed Arrays, and Low Cost Conformal Array (LCCA). | | | | |
| Title: Low Cost Conformal Array (LCCA) | | 1.700 | - | - |
| | | Articles: 0 | | |
| FY 2010 Accomplishments: ARCI Integration, TECHEVAL, and OPEVAL testing was conducted in FY10. | | | | |
| Title: Affordable Towed Array Technology (TB-33) | | 0.828 | 11.575 | 10.308 |
| | | Articles: 0 | 0 | 0 |
| Description: Affordable Towed Array Technology (TB-33) development provides more affordable and reliable thinline arrays using fiber optic technology and eliminates "wet end" electronics. The program will transition to Production Representative Unit (PRU) Fabrication. FY 2010 Accomplishments: Continued development of PRU and testing. FY 2011 Plans: | | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604503N: <i>SSN-688 & Trident Modernization</i> | PROJECT 0219: <i>Sub Sonar Improvement (ENG)</i> |
|---|---|--|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|--|------------|------------|------------|
| Continue development of special test modules to evaluate PRU design. FY 2012 Plans: Continue development of special test modules to evaluate PRU design. | | | |
| Title: Future Sensor Capability Description: Providing array capability improved long range passive detection, continued reliability improvements, and wide area search. FY 2010 Accomplishments: TECHEVAL and OPEVAL tests were conducted along with the development and deliveries of the first three systems. FY 2011 Plans: Continue testing engineering capabilities. FY 2012 Plans: Continue testing engineering capabilities. | 0.199 0 | 3.173 0 | 0.267 0 |
| Articles: | | | |
| Accomplishments/Planned Programs Subtotals | 55.912 | 71.795 | 64.697 |

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> <u>Base</u> | <u>FY 2012</u> <u>OCO</u> | <u>FY 2012</u> <u>Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
|---|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| • OPN/BLI 214700: <i>SSN Acoustics</i> | 225.695 | 189.640 | 174.584 | 0.000 | 174.584 | 184.520 | 296.377 | 252.124 | 370.492 | Continuing | Continuing |
| • OPN/BLI 214705: <i>SSN Acoustics Installation</i> | 52.859 | 47.375 | 38.329 | 0.000 | 38.329 | 34.517 | 36.430 | 52.605 | 52.121 | Continuing | Continuing |

D. Acquisition Strategy

Acoustic Systems:
A-RCI utilizes an open architecture and Commercial Off-the-Shelf products in support of new and upgraded sonar systems. A follow-on development and production sole source cost plus incentive fee contract was awarded to General Dynamics, Advanced Information Systems in August 2009 and to Lockheed Martin Maritime Systems & Sensors in April 2010. Program Review with Milestone Decision Authority was conducted in November 2009 granting approval for the FY10 production option.

Thinline Arrays:

UNCLASSIFIED

| | |
|--|----------------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | DATE: February 2011 |
|--|----------------------------|

| APPROPRIATION/BUDGET ACTIVITY | R-1 ITEM NOMENCLATURE | PROJECT |
|---|---|--|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | PE 0604503N: <i>SSN-688 & Trident Modernization</i> | 0219: <i>Sub Sonar Improvement (ENG)</i> |

Towed Systems is the development of a highly reliable and more affordable Fiber Optic Thinline variant towed array which uses fiber optic sensor technology for data collection and moves all outboard electronics from the array to inboard the submarine where they can be easily maintained. Cost savings in array production will be gained by using automated production techniques and significantly reducing or eliminating the "hand touch" labor common to today's towed array production methods because of the number of different electronics that must be wired together to achieve the acoustics capabilities necessary to meet the threats of today and tomorrow. This development is being accomplished under a Phase III SBIR. The Critical Design Review (CDR) was completed in FY06 and the program has transitioned to the fabrication of Production Representative Units. Milestone C/LRIP planned for FY13. TECHEVAL and OPEVAL tests are scheduled for FY13 and FY14 respectively along with the development of the first three systems.

Hull Mounted Arrays:

The Low Cost Conformal Array (LCCA) transitioned from PEO IWS in FY08 with a competitive contract awarded for the PRU development. PRU procurements, fabrication, and assembly began in FY08. PRU deliveries were accepted in FY10. ARCI Integration, TECHEVAL, and OPEVAL testing were conducted in FY10.

E. Performance Metrics

The A-RCI program will modernize and sustain approximately 25% of the SSN Fleet per year through executing annual software Advanced Processing Builds (APBs) and bi-annual hardware Technical Insertions (TIs). The Low Cost Conformal Array (LCCA) program will successfully complete initial installation, developmental testing (DT), and operational testing (OT) in support of achieving the Initial Operating Capability (IOC). The TB-34 program will successfully achieve a Milestone C Full Rate Production decision. The TB-33 program will complete efforts to redesign critical components in support of initial installations.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604503N: <i>SSN-688 & Trident Modernization</i> | PROJECT 0219: <i>Sub Sonar Improvement (ENG)</i> |
|---|---|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Primary Hardware Development | SS/CPIF | LMC:Manassas, VA | 237.122 | 25.722 | Dec 2010 | 22.520 | Dec 2011 | - | | 22.520 | Continuing | Continuing | Continuing |
| Primary Hardware Development | C/CPFF | Chesapeake Sciences:Millersville, MD | 37.167 | 11.325 | Dec 2010 | 10.308 | Dec 2011 | - | | 10.308 | 0.000 | 58.800 | |
| Ancillary Hardware Development | SS/CPFF | ARL University of Texas:Austin, TX | 19.147 | 2.653 | Feb 2011 | 3.061 | Feb 2012 | - | | 3.061 | Continuing | Continuing | Continuing |
| Systems Engineering | SS/CPFF | Johns Hopkins APL:Baltimore, MD | 21.702 | 2.553 | Dec 2010 | 2.980 | Dec 2011 | - | | 2.980 | Continuing | Continuing | Continuing |
| Systems Engineering | C/CPFF | Lockheed Eagan:MN - Keyport | 18.669 | 2.607 | Jan 2011 | 3.024 | Jan 2012 | - | | 3.024 | Continuing | Continuing | Continuing |
| Primary Hardware Development | C/CPIF | Progeny Systems:Manassas, VA | 26.981 | 6.500 | Jan 2011 | 6.171 | Jan 2012 | - | | 6.171 | Continuing | Continuing | Continuing |
| Primary Hardware Development | SS/CPIF | LM Syracuse:Syracuse, NY | 11.523 | - | | - | | - | | - | 0.000 | 11.523 | |
| Systems Engineering | WR | NUWC:Newport, RI | 135.848 | 7.597 | Dec 2010 | 6.000 | Dec 2011 | - | | 6.000 | Continuing | Continuing | Continuing |
| Systems Engineering | WR | NSWC:Carderock, MD | 13.423 | 2.282 | Dec 2010 | 2.514 | Dec 2011 | - | | 2.514 | Continuing | Continuing | Continuing |
| Systems Engineering | WR | NSWC, :Crane IN | 0.503 | - | | - | | - | | - | 0.000 | 0.503 | 0.503 |
| Systems Engineering | WR | Naval Research Lab:Washington, DC | 1.607 | 0.250 | Oct 2010 | 0.250 | Dec 2011 | - | | 0.250 | Continuing | Continuing | Continuing |
| Primary Hardware Development | SS/CPIF | LM (IWS 5):Not Specified | 8.602 | 3.173 | Jan 2011 | - | | - | | - | 0.000 | 11.775 | |
| Hardware/Software Development | C/CPFF | SBIR (Various):Not Specified | 2.530 | 0.135 | Jun 2011 | - | | - | | - | 0.000 | 2.665 | |
| Subtotal | | | 534.824 | 64.797 | | 56.828 | | - | | 56.828 | | | |

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604503N: <i>SSN-688 & Trident Modernization</i> | PROJECT 0219: <i>Sub Sonar Improvement (ENG)</i> |
|---|---|--|

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Primary Software Development | C/CPIF | General Dynamics, AIS:Fairfax, VA | 139.957 | 2.596 | Dec 2010 | 3.015 | Dec 2011 | - | | 3.015 | Continuing | Continuing | Continuing |
| Primary Software Development | C/CPFF | Sedna Digital, Manassas, VA | 12.938 | 3.819 | Dec 2010 | 4.004 | Dec 2011 | - | | 4.004 | Continuing | Continuing | Continuing |
| Subtotal | | | 152.895 | 6.415 | | 7.019 | | - | | 7.019 | | | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Operational Test and Evaluation | WR | OPTEVFOR:Norfolk, VA | 7.071 | 0.333 | Dec 2010 | 0.600 | Dec 2011 | - | | 0.600 | Continuing | Continuing | Continuing |
| Subtotal | | | 7.071 | 0.333 | | 0.600 | | - | | 0.600 | | | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Management Support Services | C/FFP | EG&G Technical Services:Washington, DC | 10.100 | - | | - | | - | | - | 0.000 | 10.100 | |
| Travel | WR | NAVSEA:Washington, DC | 1.575 | 0.250 | Dec 2010 | 0.250 | Dec 2011 | - | | 0.250 | Continuing | Continuing | Continuing |
| Subtotal | | | 11.675 | 0.250 | | 0.250 | | - | | 0.250 | | | |

| | | | Total Prior Years Cost | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|--|--|-------------------------------|----------------|--|---------------------|--|--------------------|--|----------------------|-------------------------|-------------------|---------------------------------|
| Project Cost Totals | | | 706.465 | 71.795 | | 64.697 | | - | | 64.697 | | | |

Remarks

UNCLASSIFIED

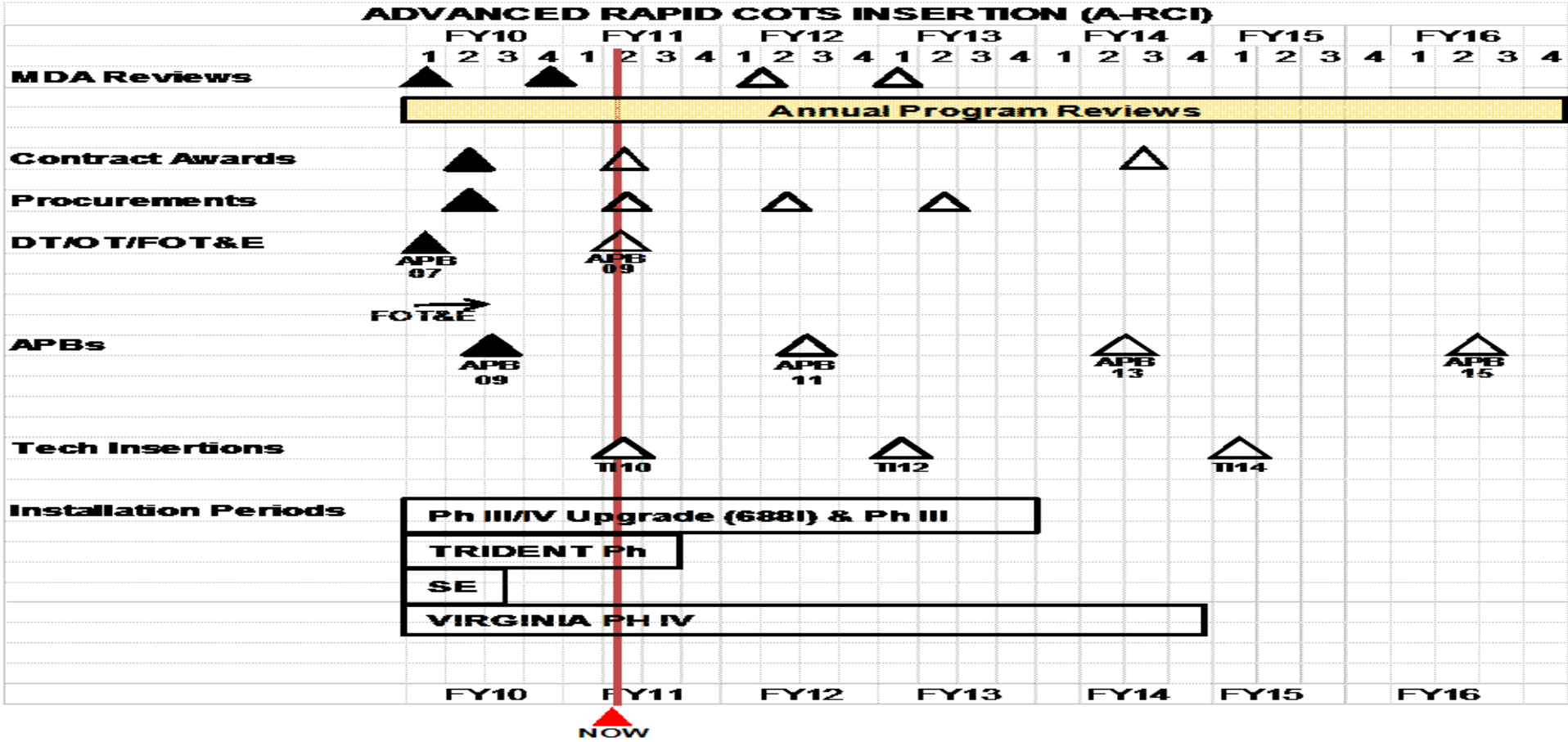
Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY
 1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE
 PE 0604503N: *SSN-688 & Trident Modernization*

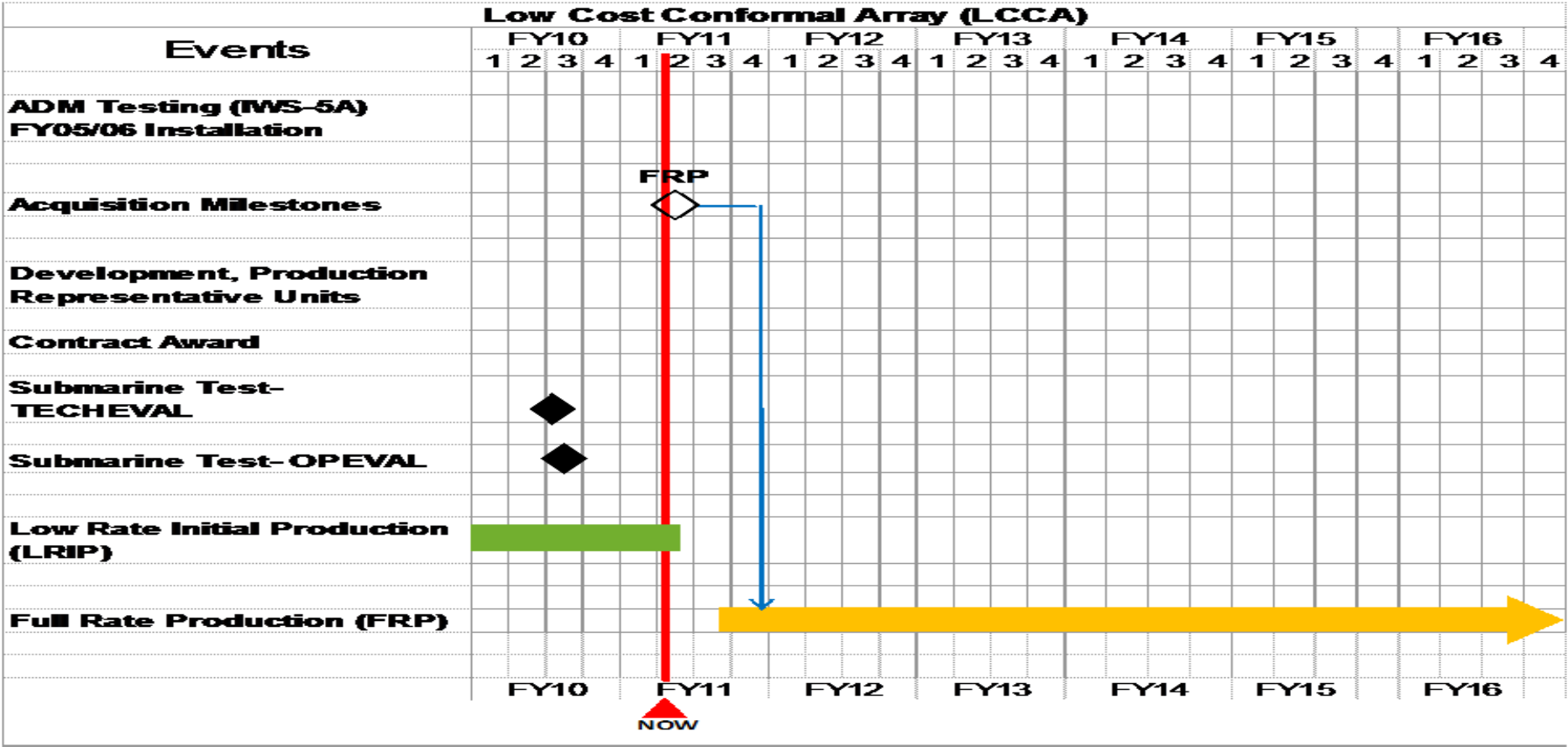
PROJECT
 0219: *Sub Sonar Improvement (ENG)*



UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: Development & Demonstration (SDD) | R-1 ITEM NOMENCLATURE PE 0604503N: SSN-688 & Trident Modernization | PROJECT 0219: Sub Sonar Improvement (ENG) |



UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

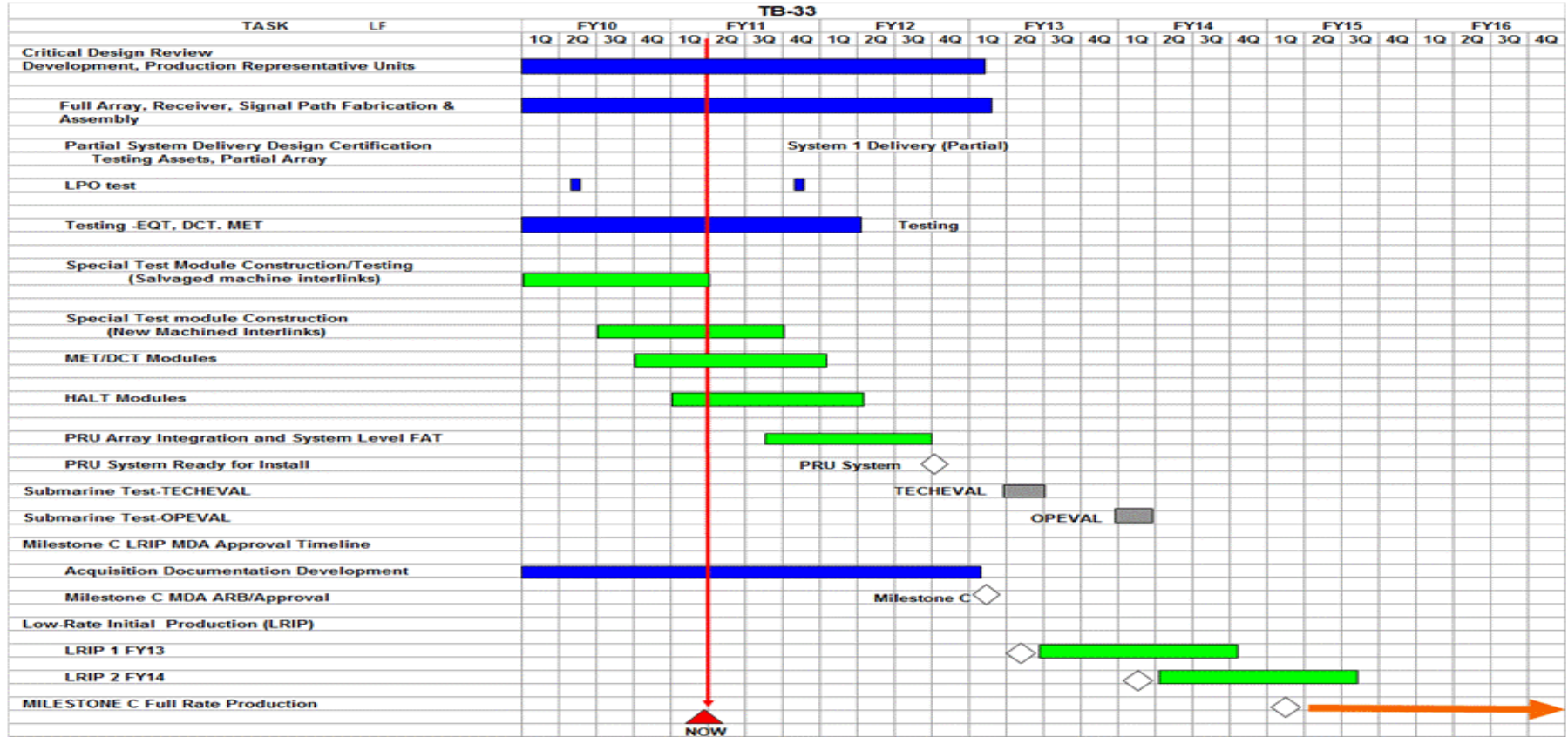
1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604503N: *SSN-688 & Trident Modernization*

PROJECT

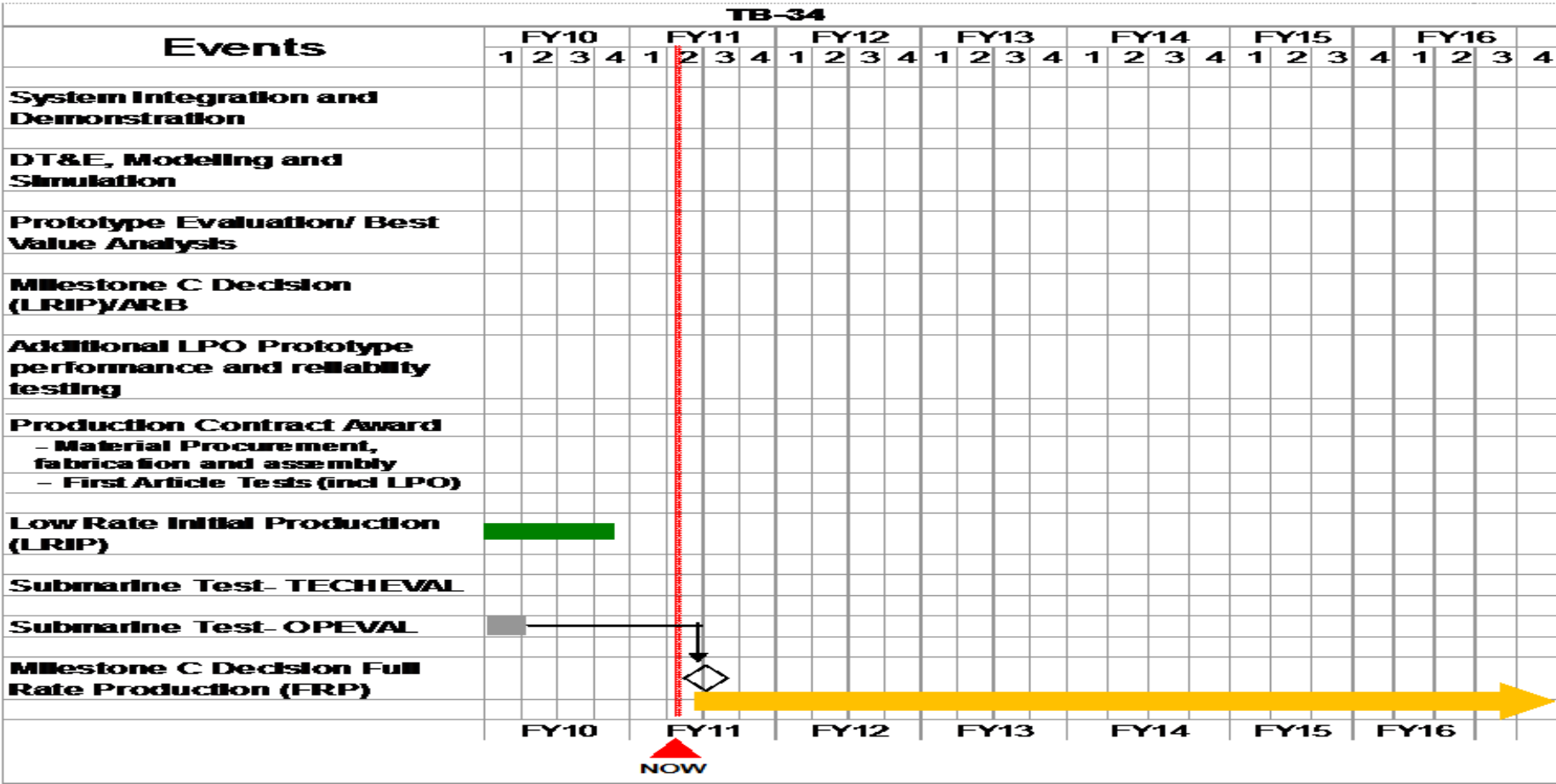
0219: *Sub Sonar Improvement (ENG)*



UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604503N: <i>SSN-688 & Trident Modernization</i> | PROJECT 0219: <i>Sub Sonar Improvement (ENG)</i> |



UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604503N: <i>SSN-688 & Trident Modernization</i> | PROJECT 0219: <i>Sub Sonar Improvement (ENG)</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 0219 | | | | |
| ACOUSTICS | 1 | 2010 | 4 | 2016 |
| Acquisition Milestones | 1 | 2010 | 1 | 2013 |
| Annual Program Review | 1 | 2010 | 4 | 2016 |
| Contract Awards | 2 | 2011 | 3 | 2014 |
| Procurements | 2 | 2010 | 2 | 2016 |
| DT/OT/FOT&E Tests | 2 | 2010 | 3 | 2011 |
| APB Deliveries | 1 | 2010 | 4 | 2012 |
| Tech Insertions | 1 | 2010 | 1 | 2015 |
| Installation Periods | 1 | 2010 | 4 | 2014 |
| LCCA | 1 | 2010 | 4 | 2016 |
| LCCA Submarine Test - TECHEVAL | 3 | 2010 | 3 | 2010 |
| LCCA Submarine Test - OPEVAL | 3 | 2010 | 3 | 2010 |
| Low Rate Initial Production | 1 | 2010 | 2 | 2011 |
| Full Rate Production | 3 | 2011 | 4 | 2016 |
| Fiber Optic Thinline Development FY02-FY13 | 1 | 2010 | 1 | 2013 |
| System Deliveries | 4 | 2012 | 4 | 2012 |
| LPO Test (Lake Test) | 2 | 2010 | 2 | 2010 |
| TB-33 Submarine Test - TECHEVAL | 2 | 2013 | 2 | 2013 |
| TB-33 Submarine Test - OPEVAL | 1 | 2014 | 1 | 2014 |
| MS C LRIP Production Contract Award | 1 | 2013 | 1 | 2014 |
| MS C Full Rate Production | 1 | 2015 | 1 | 2015 |

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604503N: <i>SSN-688 & Trident Modernization</i> | PROJECT 0219: <i>Sub Sonar Improvement (ENG)</i> |

| Events by Sub Project | Start | | End | |
|------------------------------------|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| TB-33 Production Deliveries | 4 | 2014 | 4 | 2016 |
| Low Rate Initial Production (LRIP) | 1 | 2010 | 4 | 2010 |
| TB-34 Submarine Test - OPEVAL | 1 | 2010 | 1 | 2010 |
| Milestone C Decision (FRP) / ARB | 2 | 2011 | 3 | 2011 |
| TB-34 Production Deliveries | 2 | 2011 | 4 | 2016 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604503N: <i>SSN-688 & Trident Modernization</i> | PROJECT 0742: <i>Sub Integrated Ant System</i> |
|---|---|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 0742: <i>Sub Integrated Ant System</i> | 36.814 | 29.341 | 22.763 | - | 22.763 | 15.379 | 13.403 | 10.690 | 36.387 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

The Submarine Integrated Antenna System project (0742) provides for the development and testing of submarine antennas designed to meet emerging submarine requirements of: (a) Improved frequency coverage and data rate capabilities of submarine antennas and their interface to the External Communications System, (b) Improved submarine antenna performance and data rate while the submarine is operating at speed and depth, (c) Antenna compatibility with new waveforms and transceiver equipment, (d) Improved stealth capability of existing and future antennas and (e) Improved antenna design to reduce Total Ownership Cost. This project funds research and development for submarine antennas including (1) Pre-Planned Product Improvement (P3I) efforts to existing antennas including Outboard Electronics (OE)-538/BRC Multi-Function Antenna, (2) OE-562 Submarine, High Data Rate (SubHDR) system development of Underwater Explosion (UNDEX) modification kits, (3) Development of new systems including Advanced High Data Rate (AdvHDR), and (4) Commence support of Submarine Communications Buoy (SCB) Project Arrangement with United Kingdom (UK). The efforts listed above will provide Ship Submersible Nuclear (SSN), Ship Submersible Ballistic Nuclear (SSBN) and Ship Submersible Guided Nuclear (SSGN) platforms with improved communications capabilities to support future Joint, Allied, and Naval operations.

JUSTIFICATION FOR BUDGET ACTIVITY:

This project is funded under ENGINEERING AND MANUFACTURING DEVELOPMENT because it encompasses engineering and manufacturing development of new end-items prior to production approval decision.

Notes/Comments:

- FY12 OE-538: Complete the manufacturing of the Engineering Development Model. Perform a Development Test (DT) and Operational Assessment (OA).
- FY12 Submarine High Data Rate (SubHDR): Complete UNDEX development. Complete research and analysis on performance reliability components. Commence development of components identified by research and analysis.
- FY12 Advanced High Data Rate (AdvHDR): Continue risk mitigation demonstrations and technology maturation efforts towards technology readiness assessments in preparation of Milestone B.
- FY12 Submarine Communications Buoy (SCB): Commence support of Submarine Communications Buoy (SCB) project arrangement with UK. Commence performance requirements, Analysis of Alternatives for SCB.
- FY12 Communications at Speed and Depth (CSD): Increment 1 program close out.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|--|---------|---------|---------|
| Title: Antenna Transition Engineering | 3.729 | 4.557 | 3.984 |
| Articles: | 0 | 0 | 0 |
| FY 2010 Accomplishments: | | | |

UNCLASSIFIED

| | | | | |
|--|---|--|------------------------|-----------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604503N: <i>SSN-688 & Trident Modernization</i> | PROJECT 0742: <i>Sub Integrated Ant System</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| <p>Continued emerging requirements and satellite communications (SATCOM) database/link analysis for other development programs i.e. Mobile User Objective System, Link 16, Wideband Global SATCOM, Advanced Extremely High Frequency, other new waveforms. Continued Pre-Planned Product Improvement investigation and development efforts for the legacy antenna systems. Continued investigation of multiple usage and assessments in support of current and future submarine antenna applications; specifically to assess the impact to the sail and hull penetrators on different classes of submarines.</p> <p>FY 2011 Plans: Continue to provide emerging requirements and satellite communications (SATCOM) database/link analysis for other development programs in support of current & future communication architectures. Continue Pre-Planned Product Improvement (P3I) investigation and development efforts towards legacy antenna systems. Continue concept engineering, new technology evaluations, and assessments in support of current and future submarine antenna applications, to include Hull, Mechanical, and Electrical (HM&E) interfaces. Continue to investigate multiple usage antennas, including antennas that can be used for communications and other functions.</p> <p>FY 2012 Plans: Continue to provide emerging requirements and SATCOM database/link analysis for other development programs in support of current & future communication architectures. Continue P3I investigation and development efforts towards legacy antenna systems. Continue concept engineering, new technology evaluations, and assessments in support of current and future submarine antenna applications, to include HM&E interfaces. Continue to investigate multiple usage antennas, including antennas that can be used for communications and other functions.</p> | | | | |
| <p>Title: Outboard Electronics (OE)-538</p> <p>FY 2010 Accomplishments: Continued system design for Increment 2 Engineering Development Model (EDM) hardware/software. Continued integration and system testing of Increment 2 system. Continued system engineering including development of documentation and Integrated Logistics Support (ILS) products for Increment 2. Commenced development/update of required Milestone C acquisition documents.</p> <p>FY 2011 Plans: Continue Increment 2 system design, manufacture & test EDM to validate the design supports Fleet requirements (Mobile User Objective System (MUOS)/Link-16/Iridium). Prepare acquisition (e.g., Capabilities Production Document (CPD)) and applicable</p> | | <p>7.365</p> <p>Articles: 0</p> | <p>11.744</p> <p>0</p> | <p>4.875</p> <p>0</p> |

UNCLASSIFIED

| | | | | |
|---|---|--|----------------|----------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604503N: <i>SSN-688 & Trident Modernization</i> | PROJECT 0742: <i>Sub Integrated Ant System</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| <p>ILS documentation to support Low-Rate Initial Production decision. Continue development/update of required Milestone C acquisition documents.</p> <p>FY 2012 Plans: Complete Increment 2 system design, manufacture & test EDM to validate the design supports Fleet requirements (MUOS/Link-16/Iridium). Complete acquisition (e.g., Capabilities Production Document (CPD)) and applicable ILS documentation to support Low-Rate Initial Production (LRIP) decision. Complete development/update of required Milestone C acquisition documents. Complete Developmental Test and Operational Assessment (OA).</p> | | | | |
| <p>Title: Submarine High Data Rate (SubHDR) Pre-Planned Product Improvement (P3I)</p> <p align="right">Articles:</p> <p>FY 2010 Accomplishments: Continued Underwater Explosion (UNDEX) development and testing. Commenced research and analysis on Submarine High Data Rate (SubHDR) components to increase performance reliability.</p> <p>FY 2011 Plans: Continue UNDEX development and testing. Continue research and analysis on SubHDR components to increase performance reliability.</p> <p>FY 2012 Plans: Complete UNDEX development and testing. Complete research and analysis on SubHDR components to increase performance reliability. Commence development of components identified by research and analysis for performance reliability improvements.</p> | | 1.711 0 | 1.621 0 | 3.649 0 |
| <p>Title: Advanced High Data Rate (AdvHDR)</p> <p align="right">Articles:</p> <p>FY 2010 Accomplishments: Continued design and acquisition documentation development in support of Milestone B. Continued system definition/risk reduction and system development efforts. Continued technology maturation and demonstration efforts. Continued system development engineering efforts.</p> <p>FY 2011 Plans: Continue design and acquisition documentation development in support of Milestone B. Continue system definition/risk reduction and system development efforts based on risk mitigation hardware. Continue technology maturation and demonstration efforts. Continue system development engineering efforts.</p> <p>FY 2012 Plans:</p> | | 7.819 0 | 6.719 0 | 7.291 0 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604503N: <i>SSN-688 & Trident Modernization</i> | PROJECT 0742: <i>Sub Integrated Ant System</i> |
|---|---|--|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| Continue design and acquisition documentation development in support of Milestone B. Continue system definition/risk reduction and system development efforts based on risk mitigation hardware. Continue technology maturation and demonstration efforts. Continue system development engineering efforts. | | | |
| Title: Communications at Speed and Depth (CSD) | 16.190 | 4.700 | 0.050 |
| Articles: | 0 | 0 | 0 |
| FY 2010 Accomplishments: Continued the design and development of the Increment 1 Engineering Development Models (EDMs) (Qty 2) and test assets including integrating the CSD capability into the shore Broadcast Control Authority. | | | |
| FY 2011 Plans: Provide program, contract, and system engineering management support. Delivery of Increment 1 EDMs. | | | |
| FY 2012 Plans: CSD Increment 1 program close out. | | | |
| Title: Submarine Communications Buoy (SCB) | - | - | 2.914 |
| Articles: | | | 0 |
| Description: A project arrangement between the United States and the United Kingdom. | | | |
| FY 2012 Plans: Commence support for SCB Project Arrangement with United Kingdom. Commence providing program, contract, and system engineering management support for Submarine Communications Buoy. | | | |
| Accomplishments/Planned Programs Subtotals | 36.814 | 29.341 | 22.763 |

| C. Other Program Funding Summary (\$ in Millions) | | | | | | | | | | | |
|--|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> <u>Base</u> | <u>FY 2012</u> <u>OCO</u> | <u>FY 2012</u> <u>Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
| • 313000: <i>Submarine Communications</i> | 48.579 | 59.013 | 75.447 | 0.000 | 75.447 | 79.605 | 88.408 | 82.919 | 62.874 | Continuing | Continuing |

D. Acquisition Strategy
 Program Milestones (MS):
 Outboard Electronics (OE)-538: 4th Quarter (QTR) FY12 Milestone C (MS C); 1st QTR FY14 Full Rate Production (FRP) Decision Review.
 Advanced High Data Rate (AdvHDR): 2nd QTR FY14 MS B.

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604503N: <i>SSN-688 & Trident Modernization</i> | PROJECT 0742: <i>Sub Integrated Ant System</i> |
| Submarine Communications Buoy (SCB): MS B 1st QTR FY16. | | |
| Test and Evaluation (T&E) Milestones: OE-538: 2nd QTR FY12 Developmental Test (DT) for MS C; 3rd QTR FY12 Operational Assessment (OA) for MS C; 3rd QTR FY13 DT for FRP; 4th QTR FY13 Operational Test for FRP. Contract Milestones: Submarine Communications Buoy (SCB): Contract Award 4th QTR FY16. | | |
| E. Performance Metrics | | |
| FY12 OE-538: Complete the manufacturing of the Engineering Development Model. Perform a DT and OA. | | |
| FY12 Submarine High Data Rate (SubHDR): Complete Underwater Explosion (UNDEX) development. Complete research and analysis on performance reliability components. | | |
| FY12 AdvHDR: Continue risk mitigation demonstrations and technology maturation efforts towards technology readiness assessments in preparation of Milestone B. | | |

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604503N: <i>SSN-688 & Trident Modernization</i> | PROJECT 0742: <i>Sub Integrated Ant System</i> |
|---|---|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|--|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Digital Interface Dev (Submarine High Data Rate - SubHDR) | C/CPAF | Raytheon:Marlboro, MA | 3.545 | - | | - | | - | | - | 0.000 | 3.545 | 3.545 |
| Digital Dev (SubHDR) | C/CPAF | Raytheon:Marlboro, MA | 8.182 | - | | - | | - | | - | 0.000 | 8.182 | 8.182 |
| Hardware Dev (SubHDR) | WR | NUWC:Newport, RI | 2.888 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Hardware Dev (SubHDR SHF/FOT) | C/CPAF | Raytheon:Marlboro, MA | 14.632 | - | | - | | - | | - | 0.000 | 14.632 | 14.632 |
| Hardware Dev (Antenna Trans Eng) | C/CPAF | Sippican:Marion, MA | 2.207 | - | | - | | - | | - | 0.000 | 2.207 | 2.207 |
| Hardware Dev (Communications at Speed and Depth - CSD) | C/CPAF | Apogen:San Diego, CA | 2.800 | - | | - | | - | | - | 0.000 | 2.800 | 2.800 |
| Systems/Hardware Dev (CSD) | C/CPAF | Various:Various | 39.353 | 1.970 | Nov 2010 | 0.025 | Nov 2011 | - | | 0.025 | Continuing | Continuing | Continuing |
| Systems/Hardware Dev (Submarine Communications Buoy - SCB) | TBD | TBD:TBD | - | - | | 1.900 | Nov 2011 | - | | 1.900 | Continuing | Continuing | Continuing |
| Hardware Dev (Outboard Electronics (OE)-538) | C/CPAF | Submarine Antenna Joint Venture:MA and NH | 9.245 | 8.319 | Oct 2010 | 1.241 | Jan 2012 | - | | 1.241 | Continuing | Continuing | Continuing |
| Systems Engineering (OE-538) | WR | NUWC:Newport, RI | 3.499 | 1.250 | Oct 2010 | 1.310 | Jan 2012 | - | | 1.310 | Continuing | Continuing | Continuing |
| Systems Engineering (SubHDR) | C/CPFF | Raytheon:Marlboro, MA | 6.316 | - | | - | | - | | - | 0.000 | 6.316 | 6.316 |
| System Engineering (SubHDR) | WR | NUWC:Newport, RI | 15.607 | 0.200 | Dec 2010 | 0.354 | Jan 2012 | - | | 0.354 | Continuing | Continuing | Continuing |
| Systems Engineering (Advanced High Data Rate - AdvHDR) | WR | NUWC:Newport, RI | 8.480 | 2.298 | Nov 2010 | 2.239 | Nov 2011 | - | | 2.239 | Continuing | Continuing | Continuing |
| System Engineering (Antenna Trans Eng) | WR | NUWC:Newport, RI | 17.967 | 1.837 | Nov 2010 | 1.673 | Nov 2011 | - | | 1.673 | Continuing | Continuing | Continuing |
| System Engineering (Antenna Trans Eng) | Various | NUWC:Newport, RI | 8.895 | 2.029 | Nov 2010 | 1.681 | Nov 2011 | - | | 1.681 | Continuing | Continuing | Continuing |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604503N: <i>SSN-688 & Trident Modernization</i> | PROJECT 0742: <i>Sub Integrated Ant System</i> |
|---|---|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|--|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| System Engineering (CSD) | Various | Various:Various | 4.328 | 0.300 | May 2011 | - | | - | | - | Continuing | Continuing | Continuing |
| System Engineering (CSD) | WR | SSC PAC:San Diego, CA | 3.048 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Systems Engineering (SCB) | TBD | UNKNOWN:UNKNOWN | - | - | | 0.500 | Nov 2011 | - | | 0.500 | 0.000 | 0.500 | |
| Systems Engineering (CSD) | WR | NUWC:Newport, RI | 16.820 | 1.701 | May 2011 | 0.025 | Nov 2011 | - | | 0.025 | Continuing | Continuing | Continuing |
| UNDEX Kit Development (SubHDR) | C/CPAF | Raytheon:Marlboro, MA | 5.475 | - | | - | | - | | - | 0.000 | 5.475 | 5.475 |
| Technology Maturation/ Demonstrations Dev (Advanced High Data Rate - AdvHDR) | C/CPAF | NUWC:Newport, RI | 6.121 | 1.550 | Jan 2011 | 1.771 | Dec 2011 | - | | 1.771 | Continuing | Continuing | Continuing |
| Research and Analysis Reliability Dev (Submarine High Data Rate - SubHDR) | WR | NUWC:Newport, RI | 0.618 | 0.711 | Jan 2011 | 0.620 | Jan 2012 | - | | 0.620 | Continuing | Continuing | Continuing |
| Systems Engineering (AdvHDR) | Various | NUWC:Newport, RI | 2.626 | 0.766 | Nov 2010 | 1.345 | Nov 2011 | - | | 1.345 | Continuing | Continuing | Continuing |
| Research and Analysis Reliability Dev (Submarine High Data Rate - SubHDR) | C/CPAF | UNKNOWN:UNKNOWN | - | - | | 2.198 | Feb 2012 | - | | 2.198 | 0.000 | 2.198 | |
| Subtotal | | | 182.652 | 22.931 | | 16.882 | | - | | 16.882 | | | |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|--|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Integrated Logistics Support (AdvHDR) | Various | TCI:San Diego, CA | 0.654 | 0.249 | Nov 2010 | 0.284 | Nov 2011 | - | | 0.284 | Continuing | Continuing | Continuing |
| Integrated Logistics Support (Antenna Trans Eng) | Various | TCI:San Diego, CA | 0.050 | - | | - | | - | | - | 0.000 | 0.050 | 0.050 |
| Integrated Logistics Support (Outboard Electronics - OE-538) | Various | TCI:San Diego, CA | 0.820 | 0.850 | Oct 2010 | 0.875 | Jan 2012 | - | | 0.875 | Continuing | Continuing | Continuing |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604503N: <i>SSN-688 & Trident Modernization</i> | PROJECT 0742: <i>Sub Integrated Ant System</i> |
|---|---|--|

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|--|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Integrated Logistics Support (Communications at Speed and Depth - CSD) | Various | TCl:San Diego, CA | 0.283 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Integrated Logistics Support (Submarine Communication Buoy - SCB) | TBD | UNKNOWN:UNKNOWN | - | - | | 0.100 | Nov 2011 | - | | 0.100 | 0.000 | 0.100 | |
| Acquisition Documentation (Various) | Various | Ansol:San Diego, CA | 0.932 | 0.200 | Oct 2010 | - | | - | | - | Continuing | Continuing | Continuing |
| Subtotal | | | 2.739 | 1.299 | | 1.259 | | - | | 1.259 | | | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|--|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Test & Evaluation (Communication at Speed and Depth - CSD) | WR | COTF:Norfolk, VA | 0.437 | 0.200 | May 2011 | - | | - | | - | Continuing | Continuing | Continuing |
| Test & Evaluation (Outboard Electronics (OE)-538) | WR | COTF:Norfolk, VA | 0.299 | 0.125 | Oct 2010 | 0.178 | Jan 2012 | - | | 0.178 | Continuing | Continuing | Continuing |
| Test & Evaluation (Submarine High Data Rate - SubHDR) | WR | NUWC:Newport, RI | 0.483 | 0.120 | Dec 2010 | - | | - | | - | Continuing | Continuing | Continuing |
| Developmental/Operational T&E (Advanced High Data Rate - AdvHDR) | WR | COTF:Norfolk, VA | 0.015 | 0.050 | Nov 2010 | 0.049 | Nov 2011 | - | | 0.049 | Continuing | Continuing | Continuing |
| Developmental/Operational T&E (AdvHDR) | WR | NUWC:Newport, RI | 0.350 | 0.255 | Nov 2010 | 0.470 | Nov 2011 | - | | 0.470 | Continuing | Continuing | Continuing |
| Developmental/Operational T&E (OE-538) | WR | NUWC:Newport, RI | 0.266 | 0.350 | Oct 2010 | 0.425 | Jan 2012 | - | | 0.425 | Continuing | Continuing | Continuing |
| Test & Evaluation (CSD) | WR | SSC PAC:San Diego, CA | 2.268 | 0.229 | May 2011 | - | | - | | - | Continuing | Continuing | Continuing |
| Test & Evaluation (SCB) | TBD | UNKNOWN:UNKNOWN | - | - | | 0.214 | Nov 2011 | - | | 0.214 | 0.000 | 0.214 | |
| Subtotal | | | 4.118 | 1.329 | | 1.336 | | - | | 1.336 | | | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604503N: <i>SSN-688 & Trident Modernization</i> | PROJECT 0742: <i>Sub Integrated Ant System</i> |
|---|---|--|

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|--|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Program Management Support (SubHDR) | Various | CSA:San Diego, CA | 1.502 | 0.540 | Dec 2010 | 0.477 | Jan 2012 | - | | 0.477 | Continuing | Continuing | Continuing |
| Program Management Support (AdvHDR) | Various | CSA:San Diego, CA | 4.640 | 1.551 | Nov 2010 | 1.133 | Nov 2011 | - | | 1.133 | Continuing | Continuing | Continuing |
| Program Management Support (Antenna Trans Eng) | Various | CSA:San Diego, CA | 1.406 | 0.541 | Nov 2010 | 0.630 | Nov 2011 | - | | 0.630 | Continuing | Continuing | Continuing |
| Program Management Support (CSD) | Various | CSA:San Diego, CA | 4.519 | 0.300 | May 2011 | - | | - | | - | Continuing | Continuing | Continuing |
| Program Management Support (Submarine Communications Buoy - SCB) | Various | UNKNOWN:UNKNOWN | - | - | | 0.200 | Nov 2011 | - | | 0.200 | 0.000 | 0.200 | |
| Program Management Support (OE-538) | Various | CSA:San Diego, CA | 2.333 | 0.850 | Oct 2010 | 0.846 | Jan 2012 | - | | 0.846 | Continuing | Continuing | Continuing |
| Acquisition Workforce | Various | Various:Various | 0.280 | - | | - | | - | | - | 0.000 | 0.280 | 0.280 |
| Subtotal | | | 14.680 | 3.782 | | 3.286 | | - | | 3.286 | | | |
| Project Cost Totals | | | 204.189 | 29.341 | | 22.763 | | - | | 22.763 | | | |

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604503N: <i>SSN-688 & Trident Modernization</i> | PROJECT 0742: <i>Sub Integrated Ant System</i> |
|---|---|--|

| Fiscal Year | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | 2014 | | | | 2015 | | | | 2016 | | | |
|--|------|------|------|---|------|---|---|---|------|---|---|--------------|---|---------------|---|---|------|---|---|---------------|---------------|---------------|---|---|------|---|---|---|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Acquisition (SubHDR) Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| System Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Performance Reliability Research & Analysis | | | | | | | | | | | | | Underwater Explosion (UNDEX) | | | | | | | | | | | | | | | |
| Performance Reliability Component Identification | | | | | | | | | | | | | Research & Analysis for Performance Reliability | | | | | | | | | | | | | | | |
| Production Representative EDM Deliveries | | | | | | | | | | | | | 2 (UNDEX) | | | | | | | | | | | | | | | |
| Software Delivery | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Initial Build | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Final Build | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test & Evaluation Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Development Testing | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Technical Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operational Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FOT/SHF Procurement Contract Award | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FOT/SHF Production Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GBS Procurement Contract Award | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GBS Procurement Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GBS/SHF Procurement Contract Award | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GBS/SHF Production Deliveries | ▲ 19 | ▲ 29 | ▲ 33 | | | | | | | | | ▲ 6 (Option) | | | | | | | | | | | | | | | | |
| Radome Procurement Contract Award | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Radome Procurement Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | ▲ 24 | | | | | | | | ▲ 23 (Option) | | | | | | | | |
| | | | | | | | | | | | | | | ▲ 20 (Option) | | | | | | ▲ 20 (Option) | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | ▲ 23 (Option) | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | ▲ 20 (Option) | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | ▲ 16 (Option) | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | ▲ 23 (Option) | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | ▲ 16 (Option) | | | | | | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604503N: <i>SSN-688 & Trident Modernization</i> | PROJECT 0742: <i>Sub Integrated Ant System</i> |
|---|---|--|

| Fiscal Year | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | 2014 | | | | 2015 | | | | 2016 | | | | | | | |
|-----------------------------------|---------------------------------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|---------|--|--|--|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | | | | |
| | Acquisition (AdvHDR) Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Requirements | | | | | CDD | | | | | | | | △ | | | | | | | | | | | | △ | | | | OLC AoA | | | |
| Technology Demonstration | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| System Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Engineering Dev Model | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Development Test | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contract/Deliveries (Down select) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Vendor 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Vendor 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604503N: *SSN-688 & Trident Modernization*

PROJECT

0742: *Sub Integrated Ant System*

| Fiscal Year | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | 2014 | | | | 2015 | | | | 2016 | | | |
|---|------------------------|---|---------|---|--------------------|---|-----|-----|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|
| | CSD | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 |
| Next Generation Technology Demonstrations | Technology Development | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| System Development | | | CDR TRR | | | | SVR | | | | | | | | | | | | | | | | | | | | | |
| Engineering Dev. Model | | | | | Ine 1 Dev Contract | | | | | | | | | | | | | | | | | | | | | | | |
| Deliveries | | | | | | | | EDM | | | | | | | | | | | | | | | | | | | | |

UNCLASSIFIED

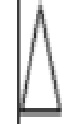
Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE
 PE 0604503N: SSN-688 & Trident
 Modernization

PROJECT
 0742: Sub Integrated Ant System

| Fiscal Year | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | 2014 | | | | 2015 | | | | 2016 | | | | | | | | | | | |
|--|------|---|---|---|------|---|---|---|---|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|--|--|--|--|--|--|--|--|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | | | | | | | | |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Requirements | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Project Agreement with United Kingdom | | | | | | | | | Evaluate Requirements, System Component Design & Component Prototypes | | | | | | | | | | | | | | | | | | | | | | | | | | | |

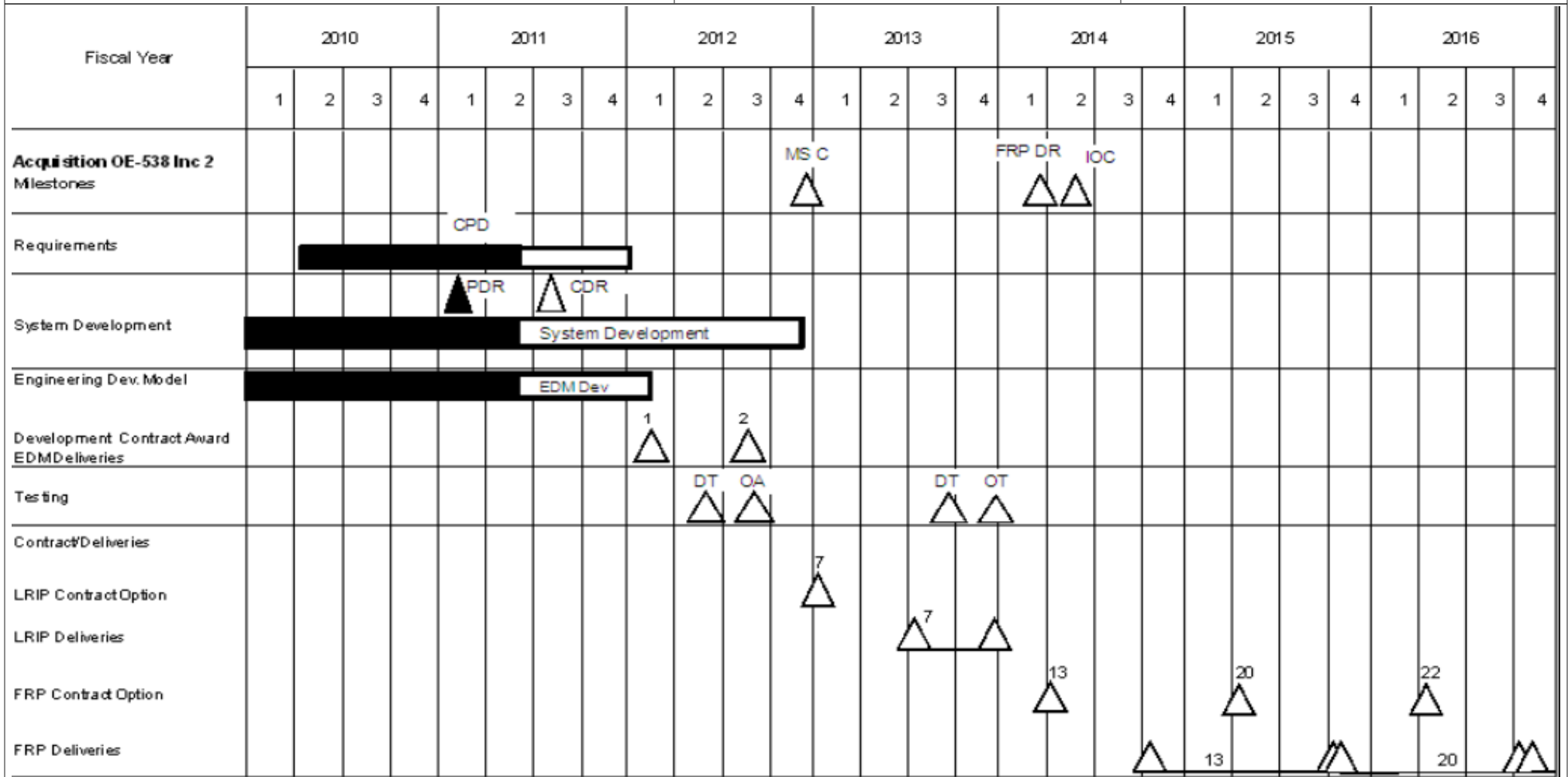


Contract Award

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604503N: <i>SSN-688 & Trident Modernization</i> | PROJECT 0742: <i>Sub Integrated Ant System</i> |
|---|---|--|



UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604503N: <i>SSN-688 & Trident Modernization</i> | PROJECT 0742: <i>Sub Integrated Ant System</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 0742 | | | | |
| Submarine High Data Rate (SubHDR) Under Water Explosion (UNDEX) Development | 1 | 2010 | 2 | 2012 |
| SubHDR Research & Analysis for Performance Reliability | 1 | 2010 | 1 | 2012 |
| SubHDR Performance Reliability Component Development/Test | 2 | 2012 | 4 | 2016 |
| SubHDR Production Representative Engineering Development Model (EDM) Deliveries | 2 | 2012 | 2 | 2012 |
| SubHDR Follow-on Terminal/Super High Frequency (FOT/SHF) Production Deliveries | 3 | 2010 | 3 | 2010 |
| SubHDR Global Broadcast Service (GBS) Procurement Contract Award | 3 | 2010 | 3 | 2010 |
| SubHDR GBS Production Deliveries | 2 | 2011 | 2 | 2011 |
| SubHDR GBS/SHF Procurement Contract Option Award | 2 | 2012 | 2 | 2012 |
| SubHDR GBS/SHF Production Deliveries | 1 | 2010 | 2 | 2013 |
| SubHDR Radome Procurement Contract Option Awards | 2 | 2012 | 2 | 2016 |
| SubHDR Radome Production Deliveries | 2 | 2013 | 2 | 2016 |
| Advanced High Data Rate (AdvHDR) Technology Development | 1 | 2010 | 2 | 2014 |
| AdvHDR Milestone B Decision (MS B) | 2 | 2014 | 2 | 2014 |
| AdvHDR Capabilities Development Document (CDD) | 1 | 2010 | 1 | 2013 |
| AdvHDR Analysis of Alternative (AOA) for Optical Laser Communications (OLC) | 1 | 2016 | 4 | 2016 |
| AdvHDR Demonstration (DEMO) | 1 | 2010 | 2 | 2014 |
| AdvHDR Technology Maturation | 1 | 2010 | 1 | 2014 |
| Communications at Speed and Depth (CSD) Technology Development Increment 1 | 1 | 2010 | 2 | 2010 |
| CSD Critical Design Review (CDR) Increment 1 | 3 | 2010 | 3 | 2010 |
| CSD Test Readiness Review Increment 1 | 4 | 2010 | 4 | 2010 |
| CSD System Verification Review (SVR) Increment 1 | 3 | 2011 | 3 | 2011 |

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604503N: <i>SSN-688 & Trident Modernization</i> | PROJECT 0742: <i>Sub Integrated Ant System</i> |

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| CSD Engineering Development Model (EDM) Increment 1 Development Contract | 1 | 2010 | 1 | 2012 |
| Communications at Speed and Depth (CSD) Engineering Development Model (EDM) Deliveries Increment 1 | 4 | 2011 | 4 | 2011 |
| Submarine Communications Buoy (SCB) Milestone B | 1 | 2016 | 1 | 2016 |
| SCB Contract Award | 4 | 2016 | 4 | 2016 |
| SCB Analysis of Alternatives | 2 | 2012 | 2 | 2012 |
| SCB Capabilities Development Document (CDD) | 3 | 2013 | 3 | 2014 |
| SCB Technology Demonstrations (Project arrangement with United Kingdom (UK)) | 1 | 2012 | 4 | 2016 |
| Outboard Electronics (OE)-538 Milestone C (MS C) Decision | 4 | 2012 | 4 | 2012 |
| OE-538 Full Rate Production Decision Review (FRP DR) | 1 | 2014 | 1 | 2014 |
| OE-538 Initial Operational Capability (IOC) | 2 | 2014 | 2 | 2014 |
| OE-538 Capability Production Document (CPD) | 2 | 2010 | 1 | 2012 |
| OE-538 Preliminary Design Review (PDR) | 1 | 2011 | 1 | 2011 |
| OE-538 Critical Design Review (CDR) | 3 | 2011 | 3 | 2011 |
| OE-538 System Development | 1 | 2010 | 4 | 2012 |
| OE-538 Engineering Development Model Development | 1 | 2010 | 1 | 2012 |
| OE-538 Eng Dev Model (EDM) - Deliveries | 1 | 2012 | 3 | 2012 |
| OE-538 Developmental Test (DT) for Milestone C (MS C) | 2 | 2012 | 2 | 2012 |
| OE-538 Operational Assessment (OA) | 3 | 2012 | 3 | 2012 |
| OE-538 Developmental Test (DT) for Full Rate Production (FRP) | 3 | 2013 | 3 | 2013 |
| OE-538 Operational Test (OT) | 4 | 2013 | 4 | 2013 |
| OE-538 Low-Rate Initial Production (LRIP) Contract Option | 1 | 2013 | 1 | 2013 |
| OE-538 Low-Rate Initial Production (LRIP) Deliveries | 3 | 2013 | 4 | 2013 |
| OE-538 Full Rate Production (FRP) Contract Options Year 1 | 2 | 2014 | 2 | 2014 |

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604503N: <i>SSN-688 & Trident Modernization</i> | PROJECT 0742: <i>Sub Integrated Ant System</i> |
|---|---|--|

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| OE-538 Full Rate Production (FRP) Contract Options Year 2 | 2 | 2015 | 2 | 2015 |
| OE-538 Full Rate Production (FRP) Contract Options Year 3 | 2 | 2016 | 2 | 2016 |
| OE-538 Full Rate Production (FRP) Deliveries 1 | 4 | 2014 | 4 | 2015 |
| OE-538 Full Rate Production (FRP) Deliveries 2 | 4 | 2015 | 4 | 2016 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604503N: <i>SSN-688 & Trident Modernization</i> | PROJECT 0775: <i>Submarine Supt Equip Prog</i> |
|---|---|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 0775: <i>Submarine Supt Equip Prog</i> | 1.430 | - | 1.271 | - | 1.271 | 1.300 | 1.330 | 1.372 | 1.407 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

This program develops and improves techniques, components, equipment, and systems that will increase submarine operational effectiveness, safety of ship, and survivability in the increasingly dense and sophisticated electromagnetic environment caused by the proliferation of complex radar, communications, and navigation equipment of potential adversaries. Improvements are necessary for Submarine Electronic Warfare Support (ES) systems to be operationally effective in the following mission areas: Joint Littoral Warfare; Joint Surveillance, Space and Electronic Warfare and Intelligence Collection; Maritime Protection; Information Operations, Special Operations Force (SOF) Support; and Joint Strike. Efforts include: (1) Integration of the technology developed and transitioned from the Advanced Submarine Support Equipment Program (ASSEP), project F0770 into the tactical ES system; (2) Resolution of software trouble reports during technology updates, from fleet feedback reports, and Submarine Warfare Federated Tactical System (SWFTS)/Non Propulsion Electronic System (NPES) Tactical Local Area Network (TACLAN) migrations; (3) Integration, test, and installation of COTS technology for system enhancements.

The Electronic Warfare Support (ES) Development Projects include the development of: Low Probability of Intercept (LPI) Direction Finding (DF), Distant ES Support and Remote Log-In, Specific Emitter Identification (SEI) Improvements, ES Vulnerability Tool, Integrated ES and ECS Radio Frequency Distribution Unit (RFDU), Capability and Technical Initiatives, and next generation processes and radar wideband miniaturization.

RDTE Funding line supports the entire AN/BLQ-10 ES procurement program. Average FY OPN and SCN hardware procurement yearly funds are \$100M.

Submarine Support Equipment Program was transferred from a Military Intelligence Program, Program Element (PE) 0304503N in Fiscal Year 2012 back to PE 06034503N.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| Title: Submarine Support Equipment Program | 1.430 | - | 1.271 |
| Articles: | 0 | | 0 |
| FY 2010 Accomplishments: | | | |
| Completed Test of LPI Receiver. Developed remote maintenance, processor improvements, and Advanced EW tuners. Researched and resolved AN/BLQ-10 SPRs. NPES and SWFTS software baseline changes. Identified, collected and quantified Technology Insertion next generation processor candidates for enhancement of the AN/BLQ-10 System. | | | |
| FY 2012 Plans: | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604503N: <i>SSN-688 & Trident Modernization</i> | PROJECT 0775: <i>Submarine Supt Equip Prog</i> |
|---|---|--|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|--|---------|---------|---------|
| Research capabilities for upgrades to AN/BLQ-10 baseline. Test and integrate insertions into NPES and SWFTS software baseline. | | | |
| Accomplishments/Planned Programs Subtotals | 1.430 | - | 1.271 |

C. Other Program Funding Summary (\$ in Millions)

| Line Item | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|---------|---------|-----------------|----------------|------------------|---------|---------|---------|---------|---------------------|------------|
| • SCN/201300: <i>VIRGINIA Class Submarine</i> | 23.060 | 0.000 | 100.793 | 0.000 | 100.793 | 50.695 | 72.095 | 69.035 | 87.176 | 0.000 | 402.854 |
| • OPN/083100: <i>Submarine Support Equipment Program</i> | 72.572 | 0.000 | 48.406 | 0.000 | 48.406 | 49.453 | 50.225 | 51.375 | 52.560 | 0.000 | 324.591 |
| • RDT&E/0603562N: <i>Submarine Tactical Warfare System</i> | 1.019 | 0.000 | 1.500 | 0.000 | 1.500 | 1.300 | 1.500 | 1.500 | 1.500 | 0.000 | 8.319 |

D. Acquisition Strategy

AN/BLQ-10 (V) ES System - Procurements are executed/managed in accordance with the Acquisition Strategy Report (Rev 6) for AN/BLQ-10(V) ES System dtd 12/14/09 and the Acquisition Plan (Rev 8) for AN/BLQ-10(V) ES System dtd 12/15/09.

E. Performance Metrics

The RDD program goal is to respond to urgent operational needs within 30 days and provide for rapid development and fielding of prototype solutions within 270 days.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604503N: <i>SSN-688 & Trident Modernization</i> | PROJECT 0775: <i>Submarine Supt Equip Prog</i> |
|---|---|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|------------------------|-----------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| AN/BLQ-10 ES Product Development | C/FP | Various Contractors:Not Specified | 2.867 | - | | 0.130 | Mar 2012 | - | | 0.130 | 0.000 | 2.997 | |
| Systems Engineering & Test Support | WR | NUWC,;Newport, RI | 2.192 | - | | 0.881 | Oct 2011 | - | | 0.881 | 0.000 | 3.073 | |
| Systems Engineering & Test Support | C/CPAF | TBD*:Not Specified | 0.369 | - | | 0.225 | Mar 2012 | - | | 0.225 | 0.000 | 0.594 | |
| Subtotal | | | 5.428 | - | | 1.236 | | - | | 1.236 | 0.000 | 6.664 | |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---------------------------------|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| Engineering Technical Support | C/CPAF | AT&T GSI:VA | 1.131 | - | Mar 2011 | - | | - | | - | 0.000 | 1.131 | |
| Subtotal | | | 1.131 | - | | - | | - | | - | 0.000 | 1.131 | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| Travel | WR | NAVSEA:WNY | 0.347 | - | | 0.005 | Mar 2012 | - | | 0.005 | 0.000 | 0.352 | |
| SBIR Assessment | Reqn | Not Specified:Not Specified | 0.285 | - | | 0.030 | Feb 2012 | - | | 0.030 | 0.000 | 0.315 | |
| Labor (Research Personnel) | Reqn | Not Specified:Not Specified | 0.122 | - | | - | | - | | - | 0.000 | 0.122 | |
| Subtotal | | | 0.754 | - | | 0.035 | | - | | 0.035 | 0.000 | 0.789 | |

| | | | Total Prior Years Cost | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|--|--|------------------------|---------|--|--------------|--|-------------|--|---------------|------------------|------------|--------------------------|
| Project Cost Totals | | | 7.313 | - | | 1.271 | | - | | 1.271 | 0.000 | 8.584 | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604503N: <i>SSN-688 & Trident Modernization</i> | PROJECT 0775: <i>Submarine Supt Equip Prog</i> |
|---|---|--|

| | Total Prior Years Cost | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|--|------------------------|---------|--------------|-------------|---------------|------------------|------------|--------------------------|
|--|------------------------|---------|--------------|-------------|---------------|------------------|------------|--------------------------|

Remarks
*FY11 Systems Engineering and Test Support contract to be competitively awarded.

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604503N: <i>SSN-688 & Trident Modernization</i> | PROJECT 0775: <i>Submarine Supt Equip Prog</i> |

| Fiscal Year | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | 2014 | | | | 2015 | | | | 2016 | | | | | | | | | | | |
|--|-------------|----------|----------|----------|-------------|----------|----------|----------|-------------|----------|----------|----------|------------------------|----------|----------|----------|-------------|----------|----------|----------|-------------|----------|----------|----------|------------------------|----------|----------|----------|-----------|---|--|--|----------|---|--|--|
| Quarter | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | | | | | | | | |
| AN/BLQ-10 Baseline SWFTS and NPES Changes, SPR Resolution and Software Enhancements | SW Update | △ | | | | | | | SW Update | △ | | | SW Update | △ | | | SW Update | △ | | | SW Update | △ | | | SW Update | △ | | | SW Update | △ | | | | | | |
| Capability Insertions (Pulse Digitizer Upgrade, Processor Upgrade, Multi Static Passive Ranging/Signature Reduction) | | Research | △ | | | | | | Research | △ | | | At-Sea Test | △ | | | Integrate | △ | | | Research | △ | | | At-Sea Test | △ | | | Integrate | △ | | | Research | △ | | |
| Technical Insertions (Next Generation Processor, RADAR Wide Band Minuturization, Advanced EW Tuners) | | | Research | △ | | | | | Test | △ | | | Downselect & Integrate | △ | | | Research | △ | | | Test | △ | | | Downselect & Integrate | △ | | | Research | △ | | | | | | |

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604503N: <i>SSN-688 & Trident Modernization</i> | PROJECT 0775: <i>Submarine Supt Equip Prog</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 0775 | | | | |
| AN/BLQ-10 Baseline Changes, SPR Resolution, and Software Enhancement 1 | 2 | 2010 | 2 | 2010 |
| Capability Insertions (Pulse Digitizer Upgrade, Processor Upgrade, Muliti Static Passive Ranging/Signature Reduction) 1 | 3 | 2010 | 3 | 2010 |
| Technical Insertions (Next Generation Processor, RADAR Wide Band Miniturization, Advanced EW Tuners) 1 | 4 | 2010 | 4 | 2010 |
| AN/BLQ-10 Baseline Changes, SPR Resolution, and Software Enhancement 2 | 2 | 2012 | 2 | 2016 |
| Capability Insertions (Pulse Digitizer Upgrade, Processor Upgrade, Muliti Static Passive Ranging/Signature Reduction) 2 | 3 | 2012 | 3 | 2016 |
| Technical Insertions (Next Generation Processor, RADAR Wide Band Miniturization, Advanced EW Tuners) 2 | 2 | 2012 | 3 | 2016 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | | | | R-1 ITEM NOMENCLATURE | | | | PROJECT | | | |
|---|----------------|----------------|---------------------|---|----------------------|----------------|----------------|-----------------------------------|----------------|-------------------------|-------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | PE 0604503N: <i>SSN-688 & Trident Modernization</i> | | | | 1411: <i>Sub Tact Comm System</i> | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| 1411: <i>Sub Tact Comm System</i> | 20.889 | 17.761 | 11.860 | - | 11.860 | 9.161 | 14.311 | 10.091 | 11.697 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Common Submarine Radio Room (CSRR) transforms LOS ANGELES, OHIO and SEAWOLF Class radio rooms from suites of class-specific, closed system equipment to a common design which incorporates Open System Architecture communications equipment. CSRR will leverage VIRGINIA Class Exterior Communication System (ECS) design, utilize VIRGINIA Class ECS Control and Management software, apply a systems approach to design and implementation of Joint Maritime Communication System, and maximize use of Commercial Off-The-Shelf (COTS) products and emerging technologies. The Submarine Tactical Communications System project (1411) provides submarines with communications systems designed to: (a) enhance data throughput through automation and integrated network management; (b) convert to ForceNet and tactical data networks, (c) provide submarine Internet Protocol (IP) connectivity; (d) be interoperable with other joint United States and combined allied military networks; and (e) improve reliability, maintainability, and availability. This is accomplished by providing the submarine with a properly integrated mix of fully interoperable Navy standard and COTS communication equipment covering a wide range of frequencies and modes. The Common Submarine Radio Room (CSRR) integrates COTS and Government Off-The-Shelf components into a single radio room configuration for all classes of submarines. CSRR leverages and continues the development of VIRGINIA Class Exterior Communications System which includes Open Systems Architecture design. The project utilizes land-based integration test facilities to integrate C4I program of record components into the open architecture prior to fleet implementation on all submarine platforms. This project funds the development of a replacement Simulation/Stimulation suite to support testing and training requirements. The project includes system engineering efforts associated with demonstration of new technology which will allow submarines to connect to the global information grid and participate in strike group, as well as joint operations. The new technology will ensure the submarine's continued ability to participate in network-centric warfare and exploit its inherent stealth capabilities in support of the joint and combined fight to achieve total battlespace dominance.

JUSTIFICATION FOR BUDGET ACTIVITY:

This program is funded under ENGINEERING and MANUFACTURING DEVELOPMENT because it encompasses development and demonstration of new end-items prior to production approval decision.

Funding in FY12 is to complete CSRR modernization Increment 1 Version 3 for SEAWOLF, VIRGINIA and Ship Submersible Guided Nuclear (SSGN) class submarines. Complete upgrade of control & management software to include Increment 1 Version 3 capabilities and provide platform specific builds. Commence CSRR modernization Increment 1 Version 3 for Ship Submersible Ballistic Nuclear (SSBN) class submarines.

Per Acquisition Decision Memorandum signed by Assistant Secretary of Navy for Research, Development & Acquisition dated 15 July 2008 approval to consolidate Increments 1 and 2 to a single Increment 1 with multiple block upgrades (Versions).

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|--|----------------|----------------|----------------|
| Title: Common Submarine Radio Room (CSRR) | 20.889 | 17.761 | 11.860 |

UNCLASSIFIED

UNCLASSIFIED

| | |
|--|----------------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | DATE: February 2011 |
|--|----------------------------|

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604503N: <i>SSN-688 & Trident Modernization</i> | PROJECT 1411: <i>Sub Tact Comm System</i> |
|---|---|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|---|----------------|----------------|----------------|
| Articles: | 0 | 0 | 0 |
| <p><i>FY 2010 Accomplishments:</i> Completed Multi-Purpose Reconfigurable Training System (MRTS) software upgrade for Increment 1 Ver 1 and Ver 2 CSRR baselines. Commenced MRTS software upgrade for Increment 1 Ver 3. Continue implementation of security upgrades to meet Information Assurance, Information Security and multiple levels of certification requirements for General Service and Sensitive Compartmented Information on all CSRR platforms. Completed systems engineering/design development and testing for CSRR Increment 1 Ver 2 for VIRGINIA FLT 1&2 and SEAWOLF platforms. Continued systems engineering development efforts for CSRR modernization Increment 1 Ver 3 for LOS ANGELES class submarines. Commenced systems engineering development efforts supporting CSRR modernization Increment 1 Ver 3 for SEAWOLF, VIRGINIA and Ship Submersible Guided Nuclear (SSGN) class submarines. Commenced upgrade of Control and Management software to include Increment 1 Ver 3 capabilities. Conducted Developmental Testing and Follow-On Test and Evaluation on the CSRR Increment 1 Ver 2 baseline.</p> <p><i>FY 2011 Plans:</i> Continue MRTS software upgrade for Increment 1 Ver 3 CSRR baseline. Continue implementation of security upgrades and meet Information Assurance, Information Security and multiple levels of certification requirements for General Service and Sensitive Compartmented Information for all CSRR platforms. Complete upgrade of CSRR Increment 1 Ver 2 for VIRGINIA FLT 1&2 and SEAWOLF control and management software. Complete systems engineering development for CSRR modernization Increment 1 Ver 3 LA class submarines. Continue CSRR modernization Increment 1 Version 3 for SEAWOLF, VIRGINIA and SSGN class submarines. Continue upgrade of Control and Management software to include Increment 1 Ver 3 capabilities.</p> <p><i>FY 2012 Plans:</i> Continue MRTS software upgrade for Increment 1 Ver 3 CSRR baseline. Continue implementation of security upgrades and meet Information Assurance, Information Security and multiple levels of certification requirements for General Service and Sensitive Compartmented Information for all CSRR platforms. Complete CSRR modernization Increment 1 Version 3 for SEAWOLF, VIRGINIA and SSGN class submarines. Support Operational Testing of the CSRR Increment 1 Version 3 baseline. Commence CSRR modernization Increment 1 Version 3 for SSBN class submarines. Complete upgrade of Control and Management software to include Increment 1 Version 3 capabilities and provide platform specific builds.</p> | | | |
| Accomplishments/Planned Programs Subtotals | 20.889 | 17.761 | 11.860 |

UNCLASSIFIED

| | |
|--|----------------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | DATE: February 2011 |
|--|----------------------------|

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604503N: <i>SSN-688 & Trident Modernization</i> | PROJECT 1411: <i>Sub Tact Comm System</i> |
|---|---|---|

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> <u>Base</u> | <u>FY 2012</u> <u>OCO</u> | <u>FY 2012</u> <u>Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
|---|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| • 313000: <i>Submarine Communications</i> | 48.579 | 59.013 | 75.447 | 0.000 | 75.447 | 79.605 | 88.048 | 82.919 | 62.874 | Continuing | Continuing |

D. Acquisition Strategy

CSRR transforms LOS ANGELES, OHIO and SEAWOLF Class radio rooms from suites of class-specific, closed system equipment to a common design which incorporates Open System Architecture communications equipment. CSRR will leverage VIRGINIA Class Exterior Communication System (ECS) design, utilize VIRGINIA Class ECS Control and Management software, apply a systems approach to design and implementation of Joint Maritime Communication System, and maximize use of Commercial Off-The-Shelf products and emerging technologies. Program Milestones: Increment 1 Ver 2 Developmental Test (DT) & Evaluation scheduled 3Q FY10, Follow-on Test & Evaluation (FOT&E) 1Q FY11 on a Ship Submersible Guided Nuclear (SSGN) platform. Increment 1 Ver 3 DT 3Q FY12, FOT&E 4Q FY12.

E. Performance Metrics

FY10 - FY12 CSRR reduces the overall cost for implementation of Command, Control, Communications Computer, Intelligence (C4I) Programs of Record (POR) components into the submarine external communication system by implementing block upgrades and reducing the integration/installation costs. The amount of RDTE funding is dependent on the number of baselines being integrated and tested in any given year.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604503N: <i>SSN-688 & Trident Modernization</i> | PROJECT 1411: <i>Sub Tact Comm System</i> |
|---|---|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|--|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Hardware Development | C/CPFF | SSC PAC:San Diego, CA | 2.776 | - | | - | | - | | - | 0.000 | 2.776 | 2.776 |
| Hardware Development | C/CPFF | Various:Various | 0.211 | - | | 0.219 | Nov 2011 | - | | 0.219 | Continuing | Continuing | Continuing |
| Multi-Crypto System (MCS) Development | Various | Motorola:Scottsdale, Arizona | 10.214 | - | | - | | - | | - | 0.000 | 10.214 | 10.214 |
| Software Development | Various | SSC PAC:San Diego, CA | 2.068 | - | | - | | - | | - | 0.000 | 2.068 | 2.068 |
| Software Development | WR | NUWC:Newport, RI | 5.498 | - | | 0.354 | Nov 2011 | - | | 0.354 | Continuing | Continuing | Continuing |
| Multi-Purpose Reconfigurable Training System (MRTS) Development | C/CPFF | NAVAIR:Orlando, FL | 11.065 | 2.772 | Jan 2011 | 0.969 | Jan 2012 | - | | 0.969 | Continuing | Continuing | Continuing |
| Systems Engineering | Various | NUWC:Newport, RI | 29.454 | 4.103 | Dec 2010 | 2.916 | Nov 2011 | - | | 2.916 | Continuing | Continuing | Continuing |
| Systems Eng/Design 688 Class | Various | NUWC:Newport, RI | 6.422 | 0.662 | Dec 2010 | - | | - | | - | Continuing | Continuing | Continuing |
| Site Platform Integration/Certification | Various | NUWC:Newport, RI | 11.683 | 0.434 | Dec 2010 | 0.434 | Nov 2011 | - | | 0.434 | Continuing | Continuing | Continuing |
| Broadcast Control Authority/Operational Control (BCA/OPCON) architecture | WR | NUWC:Newport, RI | 3.683 | - | | - | | - | | - | 0.000 | 3.683 | 3.683 |
| Software Development (CSRR) | C/CPAF | Lockheed Martin:Eagan, MN | 26.780 | 4.198 | Jan 2011 | 3.253 | Dec 2011 | - | | 3.253 | 0.000 | 34.231 | |
| Subtotal | | | 109.854 | 12.169 | | 8.145 | | - | | 8.145 | | | |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Integrated Logistics Support | WR | NUWC:Newport, RI | 2.569 | 0.502 | Dec 2010 | 0.330 | Dec 2011 | - | | 0.330 | Continuing | Continuing | Continuing |
| Software Engineering | WR | SSC PAC:San Diego, CA | 2.346 | 0.623 | Dec 2010 | 0.239 | Nov 2011 | - | | 0.239 | Continuing | Continuing | Continuing |
| | Various | | 14.454 | 3.674 | Dec 2010 | 1.123 | Nov 2011 | - | | 1.123 | Continuing | Continuing | Continuing |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604503N: <i>SSN-688 & Trident Modernization</i> | PROJECT 1411: <i>Sub Tact Comm System</i> |
|---|---|---|

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|--|------------------------|--|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Information Security/ Information Assurance (INFOSEC/IA) Certification | | SSC PAC/SSC LANT:San Diego, CA/ Charleston, SC | | | | | | | | | | | |
| Subtotal | | | 19.369 | 4.799 | | 1.692 | | - | | 1.692 | | | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Developmental/Operational Test and Evaluation (T&E) | Various | Various:Various | 9.283 | - | | 1.406 | Dec 2011 | - | | 1.406 | Continuing | Continuing | Continuing |
| Subtotal | | | 9.283 | - | | 1.406 | | - | | 1.406 | | | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Program Management Support | Various | Various:Various | 9.097 | 0.793 | Dec 2010 | 0.617 | Nov 2011 | - | | 0.617 | Continuing | Continuing | Continuing |
| Acquisition Workforce | Various | Various:Various | 0.077 | - | | - | | - | | - | 0.000 | 0.077 | 0.077 |
| Subtotal | | | 9.174 | 0.793 | | 0.617 | | - | | 0.617 | | | |

| | | | Total Prior Years Cost | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|--|--|------------------------|---------|--|--------------|--|-------------|--|---------------|------------------|------------|--------------------------|
| Project Cost Totals | | | 147.680 | 17.761 | | 11.860 | | - | | 11.860 | | | |

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604503N: *SSN-688 & Trident Modernization*

PROJECT

1411: *Sub Tact Comm System*

| Fiscal Year | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | 2014 | | | | 2015 | | | | 2016 | | | |
|---|----------------------------------|---|---|---|----------------------------|---|---|---|----------------------------------|---|---|---|--------------------------|---|---|---|----------------------------|---|---|---|------|---|---|---|------|---|---|---|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Acquisition Milestones | Inc1V2 Interim Fielding Decision | | | | Inc1V2 Fielding Decision | | | | Inc1V3 Interim Fielding Decision | | | | Inc1V3 Fielding Decision | | | | | | | | | | | | | | | |
| Technical Reviews | | | | | I1V3 CDR | | | | | | | | I1V4 PDR | | | | I1V4 CDR | | | | | | | | | | | |
| Contracts | | | | | | | | | Follow-on | | | | | | | | | | | | | | | | | | | |
| Software/Lockheed Martin | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| System Development | | | | | Inc 1 v3 Development Phase | | | | | | | | | | | | | | | | | | | | | | | |
| Technology Demonstration | | | | | | | | | | | | | | | | | Inc 1 v4 Development Phase | | | | | | | | | | | |
| Test & Evaluation | CSRR Inc1V2 FOT&E | | | | CSRR Inc1V3 FOT&E | | | | | | | | | | | | | | | | | | | | | | | |
| Development Test | Inc1V2 DT ▲ JITC Cert | | | | Inc1V3 DT ▲ JITC Cert | | | | | | | | | | | | | | | | | | | | | | | |
| Operational Test | Inc1V2 OT** | | | | Inc1V3 OT | | | | | | | | | | | | | | | | | | | | | | | |
| Production (Increment I) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LRIP | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LRIP Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FRP Award | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FRP Deliveries | ▲ 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Procurement Inc 1 mod kits | 11 ▲ | | | | 16 ▲ | | | | 12 ▲ | | | | 10 ▲ | | | | 14 ▲ | | | | 12 ▲ | | | | 6 ▲ | | | |
| Installation Inc 1 mod kits | 14* ▲ | | | | 4 ▲ | | | | 9 ▲ | | | | 12 ▲ | | | | 10 ▲ | | | | 14 ▲ | | | | 11 ▲ | | | |
| Support Facility: Turn Key Installations | | | | | 1 | | | | 1 | | | | | | | | | | | | 1 | | | | | | | |

*Note: 9 Installations in FY 10 = 5 procurements from FY09 and 4 procurements from FY10

**Note: Inc1V2 OT moved due to platform availability

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604503N: <i>SSN-688 & Trident Modernization</i> | PROJECT 1411: <i>Sub Tact Comm System</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 1411 | | | | |
| Interim Fielding Decision (Increment 1 Version (Ver) 2) | 4 | 2010 | 4 | 2010 |
| Fielding Decision (Increment 1 Version (Ver) 2) | 2 | 2011 | 2 | 2011 |
| Interim Fielding Decision (Increment 1 Version 3) | 2 | 2012 | 2 | 2012 |
| Fielding Decision (Increment 1 Ver 3) | 1 | 2013 | 1 | 2013 |
| Technical Reviews (Increment 1 Ver 3 Critical Design Review (CDR)) | 2 | 2011 | 2 | 2011 |
| Technical Reviews (Increment 1 Ver 4 Preliminary Design Review (PDR)) | 2 | 2014 | 2 | 2014 |
| Technical Reviews (Increment 1 Ver 4 CDR) | 3 | 2015 | 3 | 2015 |
| Technology Demonstration (Increment 1 Ver 3) | 1 | 2010 | 2 | 2014 |
| Technology Demonstration (Increment 1 Ver 4) | 2 | 2014 | 4 | 2016 |
| Contracts (Software---Lockheed Martin) | 1 | 2010 | 4 | 2012 |
| Contracts (Software---Lockheed Martin Follow-On) | 1 | 2013 | 4 | 2016 |
| Developmental Testing (DT) (Increment 1 Ver 2) | 3 | 2010 | 3 | 2010 |
| Operational Testing (OT) (Increment 1 Ver 2) | 1 | 2011 | 2 | 2011 |
| DT (Increment 1 Ver 3) | 3 | 2012 | 3 | 2012 |
| OT (Increment 1 Ver 3) | 4 | 2012 | 4 | 2012 |
| Full Rate Production (FRP) Deliveries | 1 | 2010 | 1 | 2010 |
| Procurement (Increment 1 Modernization Kits) | 2 | 2010 | 2 | 2016 |
| Installation (Increment 1 Modernization Kits) | 2 | 2010 | 2 | 2016 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604503N: <i>SSN-688 & Trident Modernization</i> | PROJECT 9999: <i>Congressional Adds</i> |
|---|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 9999: <i>Congressional Adds</i> | 4.584 | - | - | - | - | - | - | - | - | 0.000 | 4.584 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Continue research, development, and testing for several future arrays including the Vector Sensor Towed Array (VSTA), Sparsely Populated Volmetric Array (SPVA), and Multi-Function Towed Array (MFTA) to reduce array damage and enhance hull surveillance and detection.

B. Accomplishments/Planned Programs (\$ in Millions)

| | FY 2010 | FY 2011 |
|---|---------|---------|
| Congressional Add: Improved Submarine Towed Array Systems | 1.593 | - |
| FY 2010 Accomplishments: Conduct research, development, and testing for several future arrays including the Vector Sensor Towed Array (VSTA), Sparsely Populated Volmetric Array (SPVA), and Multi-Function Towed Array (MFTA) to reduce array damage and enhance hull surveillance and detection. | | |
| Congressional Add: AN/BLQ 10A(V) WIDEBAND SIGNAL PROCESSOR | 2.991 | - |
| FY 2010 Accomplishments: N/A | | |
| Congressional Adds Subtotals | 4.584 | - |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

Congressional add.

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | | | | R-1 ITEM NOMENCLATURE | | | | | | | |
|---|----------------|----------------|---------------------|---------------------------------|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> | | | | PE 0604504N: <i>Air Control</i> | | | | | | | |
| BA 5: <i>Development & Demonstration (SDD)</i> | | | | | | | | | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| Total Program Element | 6.373 | 5.665 | 5.521 | - | 5.521 | 5.618 | 6.172 | 6.301 | 6.379 | Continuing | Continuing |
| 0718: <i>MATCAL S</i> | 0.492 | 0.369 | 0.620 | - | 0.620 | 0.631 | 0.644 | 0.659 | 0.666 | Continuing | Continuing |
| 0993: <i>Carrier ATC</i> | 5.440 | 4.882 | 4.507 | - | 4.507 | 4.587 | 5.120 | 5.228 | 5.293 | Continuing | Continuing |
| 1657: <i>ATC Improvement</i> | 0.441 | 0.414 | 0.394 | - | 0.394 | 0.400 | 0.408 | 0.414 | 0.420 | Continuing | Continuing |

A. Mission Description and Budget Item Justification

This program element provides for the development, integration, and testing of Automated Air Traffic Control (ATC) hardware and software required to provide improved flight safety and more reliable all-weather ATC and landing system capabilities at Naval Air Stations (NASs) and Marine Corps Air Stations (MCASs) and Fleet Area Control and Surveillance Facilities (FACSFAC) worldwide. Funded programs are required to upgrade or replace aging ATC and landing system equipment on aircraft, aircraft carriers, amphibious ships, NASs, MCASs and Navy/Marine Corps tactical/expeditionary airfields and remote landing sites.

B. Program Change Summary (\$ in Millions)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|-------------------------------------|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 6.506 | 5.665 | 6.023 | - | 6.023 |
| Current President's Budget | 6.373 | 5.665 | 5.521 | - | 5.521 |
| Total Adjustments | -0.133 | - | -0.502 | - | -0.502 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | - | - | | | |
| • SBIR/STTR Transfer | -0.018 | - | | | |
| • Program Adjustments | - | - | -0.323 | - | -0.323 |
| • Section 219 Reprogramming | -0.115 | - | - | - | - |
| • Rate/Misc Adjustments | - | - | -0.179 | - | -0.179 |

Change Summary Explanation

Schedule:

Proj. 0993: With the need for the ATC Console being delayed until delivery of CVN-79, currently scheduled for FY2020, this budget has re-focused efforts on the AN/SPN-43 Service Life Extension Program.

Technical:

Not applicable.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604504N: <i>Air Control</i> | PROJECT 0718: <i>MATCAL</i> S |
|---|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|----------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 0718: <i>MATCAL</i> S | 0.492 | 0.369 | 0.620 | - | 0.620 | 0.631 | 0.644 | 0.659 | 0.666 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

This program provides for continued development, integration, and testing of hardware and software to meet requirements for all-weather operation and improved flight safety of Air Traffic Control and Landing Systems at Marine Corps expeditionary airfields. Current program includes approved transition to Air Surveillance and Precision Approach Radar Control System (ASPARCS). The ASPARCS will replace the legacy Air Traffic Control (ATC) Precision Approach Radar (PAR), Air Surveillance Radar (ASR), and Communications and Control Subsystem with a High Mobility Multipurpose Wheeled Vehicle based PAR, ASR, and Command and Control (C2) Subsystem. Efforts have begun for requirements definition, development and engineering for the ASPARCS Pre-Planned Product Improvements (P3I), in accordance with Marine Corps Requirements Oversight Council (MROC) Decision Memorandum 11-2005 dated December 2004. P3I includes the design and development of software code to interface C2 input/output to existing software, incorporating Radar Range Extension and Mapping functionality, enhanced simulation and training and providing increased operator workstations.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|--------------|-------------|---------------|
| Title: ASPARCS Improvements | 0.492 | 0.369 | 0.620 | - | 0.620 |
| Articles: | 0 | 0 | 0 | | 0 |
| Description: Investigate and resolve obsolescence issues. Perform studies and analyses to implement P3I and other evolutionary improvements. Develop criteria for existing ASPARCS software to achieve Defense Information Infrastructure-Common Operating Environment Level 5 compliance, Information Assurance, Radar Range Extension and Mapping functionality, and enhanced simulation and training into the existing ASPARCS software. Perform studies and analyses. | | | | | |
| FY 2010 Accomplishments: Completed investigation of obsolescence issues. Performed studies and analyses to implement P3I and other evolutionary improvements. Developed criteria for existing ASPARCS software to achieve Defense Information Infrastructure-Common Operating Environment Level 5 compliance, Information Assurance, Radar Range Extension and Mapping functionality, and enhanced simulation and training into the existing ASPARCS software. Perform studies and analyses. Developed a requirement/capabilities document for Common Aviation Command Control System (CAC2S) / Ground Air Task Oriented Radar System (GATOR) requirements to interface with ASPARCS. | | | | | |
| FY 2011 Plans: | | | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604504N: <i>Air Control</i> | PROJECT 0718: <i>MATCAL</i> S |
|---|---|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|---------|---------|-----------------|----------------|------------------|
| Develop and complete the Command, Control and Communications (C3) interface software for ASPARCS that meets Information Assurance requirements. | | | | | |
| <i>FY 2012 Base Plans:</i> Fund the development of a Capabilities Development Document for Replacement Expeditionary ATC Tower. Initial Capabilities Document for ATC states that a deployable, mobile, scalable (the size of airfield) tower with enhanced night vision device capability, and equipped with a certified tower radar display, is a capability gap in fielded Marine Air Traffic Control and Landing System (MATCAL)S equipment. Current tower has increasing obsolescence issues and is reaching its service life limits. | | | | | |
| Accomplishments/Planned Programs Subtotals | 0.492 | 0.369 | 0.620 | - | 0.620 |

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012 Base</u> | <u>FY 2012 OCO</u> | <u>FY 2012 Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To Complete</u> | <u>Total Cost</u> |
|-----------------------------|----------------|----------------|-------------------------|------------------------|--------------------------|----------------|----------------|----------------|----------------|-----------------------------|-------------------|
| • OPN/2815: <i>MATCAL</i> S | 15.122 | 43.827 | 8.136 | 7.232 | 15.368 | 5.899 | 6.084 | 13.777 | 6.425 | Continuing | Continuing |

D. Acquisition Strategy
ASPARCS is an ACAT IVT program. Lockheed Martin was awarded the contract for this effort in June 2000. This effort included First Article development (Fixed Price Incentive) with (Firm Fixed Priced) production options. Schedule delays and technical issues with the PAR and ASR and integration with the operation subsystem/communication subsystem resulted in a no-cost close out to the Lockheed Martin contract in November 2004. An Acquisition Decision Memorandum was signed in Jan 2005 approving the procurement of the Army AN/TPN-31 System to fulfill the ASPARCS requirement for July 2006. The MROC Decision Memorandum 11-2005 of December 2004 outlined the evolutionary improvements envisioned by Headquarters Marine Corps. This program has joined with the Army to implement P3I and evolutionary product improvements.

E. Performance Metrics
The MATCAL)S RDTEN funding will develop a planned replacement for the current ASR.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604504N: <i>Air Control</i> | PROJECT 0993: <i>Carrier ATC</i> |
|---|---|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|----------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 0993: <i>Carrier ATC</i> | 5.440 | 4.882 | 4.507 | - | 4.507 | 4.587 | 5.120 | 5.228 | 5.293 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Shipboard Air Traffic Control (ATC) Central systems, interfacing with versions of the AN/TPX-42(V) Direct Altitude and Identity Readout system (DAIR), allow Shipboard Air Traffic Controllers to identify, marshal, and direct aircraft within a 50 Nautical Mile (NM) radius of the ship. At closer range (8NM) a ship's Automatic Carrier Landing System (ACLS) and Independent Landing Monitor (ILM) are operationally required to affect safe landing on the moving decks of ships. The AN/SPN-41 ILM and AN/SPN-46 ACLS provide verification of aircraft approach glideslope position and precise aircraft automatic control respectively during its final approach and landing sequence to an aircraft carrier. Dual efforts are underway to improve the AN/SPN-46 system availability and supportability until at least September 2020. These efforts include various Engineering Change Proposals (ECPs), and the Life Cycle Extension (LCE) program transitional changes include a re-architecture of its radar control group process with Commercial Off the Shelf (COTS) technology, replacement of the computer group processing hardware, and conversion of system program software from CMS-2 to the more commonly used 'C' programming language. In recent years, the top 25% of the AN/SPN-43 frequency band has been reallocated to the Fixed Wireless Access community prohibiting ATC radar operation within 50 miles of the coast. Because the Navy requires an air traffic control radar, this project unit will include engineering efforts to identify requirements and develop a suitable replacement and/or a Service Life Extension Plan (SLEP) before the AN/SPN-43 becomes operationally ineffectual. Finally, the AN/TPX-42A(V)14 DAIR underwent several phased upgrades that have resulted in three field changes. System improvements include replacing militarized front-end equipment in the track processor with COTS technology, converting the operational program software to more commonly used and flexible 'C' language, integrating and interface with Mode 5 Identification Friend or Foe, and integrating a flat panel monitor into the AN/UYQ-70 console. The development of an ATC common console will reduce operational costs, improve reliability, and provide compatible interfaces and commonality for all ATC workstations.

Test Article Descriptions:

The AN/TPX-42 ATC Console Engineering Development Model delivered in FY 2012 will be used to support developmental testing to verify system performance against established requirements.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|--------------|-------------|---------------|
| Title: AN/TPX-42 | 5.240 | 1.847 | 1.239 | - | 1.239 |
| Articles: | 0 | 0 | 0 | | 0 |
| Description: This project funds development of the final ATC Console configuration to include JPALS interface, Dual Band Radar interface, and replacement of AN/SPN-35 Operator displays. It is anticipated that this technology insertion will result in a formal nomenclature change for the AN/TPX-42 system, as such the | | | | | |

UNCLASSIFIED

| | | | | | |
|---|--|---|--|--|--|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | | | DATE: February 2011 | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | R-1 ITEM NOMENCLATURE PE 0604504N: <i>Air Control</i> | | PROJECT 0993: <i>Carrier ATC</i> | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | | | | |
| | | | | | |
| identification of the modification kits will change to 'H' Kits. "H" Kits will also identify and test Voice Recorder replacement technology and obsolete components. | | | | | |
| FY 2010 Accomplishments: Commenced development of Field Change 4 & 5 to the AN/TPX-42 which will identify and test a replacement voice/video recorder and design and test a JPALS interface. | | | | | |
| FY 2011 Plans: Continue development of an ADS B interface, Field Change 4 & commence testing of Field Change 5 to AN/TPX-42. | | | | | |
| FY 2012 Base Plans: Complete Field Change 4 testing for the AN/TPX-42. | | | | | |
| Title: AN/SPN-43C | | | | | |
| Articles: | | | | | |
| | | | | | |
| Description: This project funds development of the final ATC Console configuration to include Joint Precision Approach and Landing System (JPALS) interface, Dual Band Radar interface, and replacement of AN/SPN-35 Operator displays. It is anticipated that this technology insertion will result in a formal nomenclature change for the AN/TPX-42 system, as such the identification of the modification kits will change to 'H' Kits. "H" Kits will also identify and test Voice Recorder replacement technology and obsolete components. This project funds development of an AN/SPN-43C replacement or SLEP. | | | | | |
| FY 2010 Accomplishments: Continue identification and testing and begin system development of AN/SPN-43C replacement system. | | | | | |
| FY 2011 Plans: Begin development of AN/SPN-43 SLEP. | | | | | |
| FY 2012 Base Plans: Continue system development and begin design/build of a receiver ECP prototype for the AN/SPN-43 SLEP testing. | | | | | |
| Accomplishments/Planned Programs Subtotals | | | | | |
| | | | | | |

| FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---------|---------|--------------|-------------|---------------|
| 0.200 | 3.035 | 3.268 | - | 3.268 |
| 0 | 1 | 0 | | 0 |
| 5.440 | 4.882 | 4.507 | - | 4.507 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604504N: <i>Air Control</i> | PROJECT 0993: <i>Carrier ATC</i> |
|---|---|--|

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> <u>Base</u> | <u>FY 2012</u> <u>OCO</u> | <u>FY 2012</u> <u>Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
|--|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| • OPN/2831: <i>Shipboard Air Traffic Control</i> | 7.945 | 7.658 | 7.394 | 0.000 | 7.394 | 8.394 | 9.485 | 10.216 | 10.370 | Continuing | Continuing |
| • OPN/2832: <i>Automatic Carrier Landing Systems</i> | 18.823 | 15.169 | 18.518 | 0.000 | 18.518 | 15.767 | 18.233 | 19.511 | 19.852 | Continuing | Continuing |

D. Acquisition Strategy

AN/SPN-46 Computer Group replacement subprojects are part of the AN/SPN-46 LCE project, which is an ECP. Initial contract was awarded in November 2003 for the Radar Control Group, and the contract for the Computer Group was awarded in December 2005. AN/TPX-42 Voice/Video recorder replacement, JPALS Interface, Shipboard trainer, and ATC Console are all anticipated ECPs, with improvements being incorporated into the production of AN/TPX-42 upgrade kits. AN/SPN-43 SLEP will consist of a receiver, pedestal, and transmitter ECPs and will be incorporated into AN/SPN-43 upgrade kits.

All other projects are non-ACAT upgrades to existing systems. An evolutionary acquisition approach is being used to introduce these technology advancements that either satisfy user requirements, such as all weather operation, or address supportability and cost of ownership problems.

E. Performance Metrics

Quality Design and Build will occur in FY12 for the AN/SPN-43C.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604504N: <i>Air Control</i> | PROJECT 0993: <i>Carrier ATC</i> |
|---|---|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Primary HDW Develop-SPN-46 | WR | NAWCAD:PAX River, MD | 11.546 | - | | - | | - | | - | 0.000 | 11.546 | |
| Primary HDW Develop-SPN-46 | SS/CPIF | SNC:Sierra, NV | 6.356 | - | | - | | - | | - | 0.000 | 6.356 | 6.356 |
| Primary HDW Develop-TPX-42 | WR | NAWCAD:PAX River, MD | 2.623 | 0.350 | Dec 2010 | 0.794 | Dec 2011 | - | | 0.794 | Continuing | Continuing | Continuing |
| Primary HDW Develop - SPN-43 | WR | NAWCAD:PAX River, MD | - | - | | 1.703 | Dec 2011 | - | | 1.703 | Continuing | Continuing | Continuing |
| Subtotal | | | 20.525 | 0.350 | | 2.497 | | - | | 2.497 | | | |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------------|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Software Development-SPN-46 | WR | NAWCAD:PAX River, MD | 13.120 | - | | - | | - | | - | 0.000 | 13.120 | |
| Software Development-TPX-42 | WR | NAWCAD:PAX River, MD | 7.599 | 3.658 | Dec 2010 | 1.153 | Dec 2011 | - | | 1.153 | Continuing | Continuing | Continuing |
| Integrated Logistics Support-TPX-42 | WR | NAWCAD:PAX River, MD | 0.632 | 0.100 | Dec 2010 | 0.075 | Dec 2011 | - | | 0.075 | Continuing | Continuing | Continuing |
| Studies & Analysis- SPN-46 | WR | NAWCAD:PAX River, MD | 0.273 | - | | - | | - | | - | 0.000 | 0.273 | |
| Studies & Analysis- SPN-43 | WR | NAWCAD:PAX River, MD | 1.105 | 0.250 | Dec 2010 | 0.050 | Dec 2011 | - | | 0.050 | Continuing | Continuing | Continuing |
| Studies & Analysis- TPX-42 | WR | NAWCAD:PAX River, MD | - | 0.250 | Dec 2010 | 0.050 | Dec 2011 | - | | 0.050 | Continuing | Continuing | Continuing |
| Integrated Logistics Support - SPN-43 | WR | NAWCAD:PAX River, MD | - | - | | 0.075 | Dec 2011 | - | | 0.075 | Continuing | Continuing | Continuing |
| Subtotal | | | 22.729 | 4.258 | | 1.403 | | - | | 1.403 | | | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604504N: <i>Air Control</i> | PROJECT 0993: <i>Carrier ATC</i> |
|---|---|--|

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Developmental Test & Evaluation- SPN-46 | WR | NAWCAD:PAX River, MD | 1.645 | - | | - | | - | | - | 0.000 | 1.645 | |
| Developmental Test & Evaluation- TPX-42 | WR | NAWCAD:PAX River, MD | 0.891 | 0.159 | Dec 2010 | 0.458 | Dec 2011 | - | | 0.458 | Continuing | Continuing | Continuing |
| Operational Test & Evaluation- TPX-42 | WR | OPTEVOR:Norfolk, VA | 0.062 | - | | - | | - | | - | 0.000 | 0.062 | |
| Subtotal | | | 2.598 | 0.159 | | 0.458 | | - | | 0.458 | | | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|---|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Program Management Support | C/CPFF | American Electronics, Inc.:California, MD | 1.837 | 0.100 | Dec 2010 | 0.046 | Dec 2011 | - | | 0.046 | Continuing | Continuing | Continuing |
| Program Management Support | WR | NAWCAD:PAX River, MD | - | - | | 0.103 | Dec 2011 | - | | 0.103 | Continuing | Continuing | Continuing |
| Travel | WR | NAVAIRHQ:PAX River, MD | 0.120 | 0.015 | Oct 2010 | - | | - | | - | 0.000 | 0.135 | |
| Subtotal | | | 1.957 | 0.115 | | 0.149 | | - | | 0.149 | | | |

| | Total Prior Years Cost | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|------------------------|---------|--------------|-------------|---------------|------------------|------------|--------------------------|
| Project Cost Totals | | 47.809 | 4.882 | 4.507 | - | 4.507 | | |

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604504N: *Air Control*

PROJECT

0993: *Carrier ATC*

| Carrier ATC | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | | | | | |
|-------------------------------|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|--|--|--|--|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | | | | |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| System Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hardware Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Software Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reviews | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test and Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contract Awards | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604504N - 0993

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604504N: <i>Air Control</i> | PROJECT 0993: <i>Carrier ATC</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Carrier ATC | | | | |
| Acquisition Milestones: Milestones: Configuration Control Board (SPN43) - Part 1 | 1 | 2011 | 1 | 2011 |
| Acquisition Milestones: Milestones: Configuration Control Board (TPX42) | 4 | 2014 | 4 | 2014 |
| Acquisition Milestones: Milestones: Configuration Control Board (SPN43) - Part 2 | 2 | 2014 | 2 | 2014 |
| System Development: Hardware Development: AN/SPN-43C | 1 | 2010 | 4 | 2016 |
| System Development: Hardware Development: System Requirement Review (SRR) (SPN43) | 1 | 2010 | 4 | 2010 |
| System Development: Hardware Development: System Development (SPN43) | 1 | 2011 | 1 | 2012 |
| System Development: Hardware Development: Quality Design and Build (SPN43) | 1 | 2012 | 4 | 2012 |
| System Development: Hardware Development: Prototype Delivery (SPN43) | 1 | 2013 | 1 | 2013 |
| System Development: Software Development: System Requirement Review (SRR) (TPX42) | 1 | 2010 | 3 | 2014 |
| System Development: Software Development: System Development (TPX42) | 1 | 2015 | 1 | 2016 |
| System Development: Software Development: Quality Design and Build (TPX42) | 1 | 2016 | 4 | 2016 |
| Test and Evaluation: Developmental Testing/Operational Testing (SPN43) | 1 | 2013 | 1 | 2014 |
| Deliveries: Production Deliveries (SPN43) | 1 | 2015 | 4 | 2016 |
| Deliveries: AN/TPX-42 | 1 | 2010 | 4 | 2016 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604504N: <i>Air Control</i> | PROJECT 1657: <i>ATC Improvement</i> |
|---|---|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 1657: <i>ATC Improvement</i> | 0.441 | 0.414 | 0.394 | - | 0.394 | 0.400 | 0.408 | 0.414 | 0.420 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

This program provides for engineering development, integration, adaptation, and testing of new and/or modernized Air Traffic Control (ATC) systems, air navigational aids, landing systems, and ATC communication systems for Naval and Marine Corps Air Stations (NAS/MCAS) and Fleet Air Traffic Control Systems. These systems are critical to Naval Aviation and provide for safe, efficient air operations. Additionally, the Federal Aviation Administration (FAA) is affecting major modernization of the National Airspace System (NAS). The Navy must maintain compatibility with FAA-developed ATC systems in order to ensure seamless interoperability within the NAS. NAS modernization initiatives in Project 1657 include the Visual Information Display System (VIDS) and follow-on Pre-Planned Product Improvements, with additional RDT&E efforts required for modified commercial-off-the-shelf ATC systems and equipment for modernization and recapitalization of these systems at our NAS, MCAS & Fleet Area Control & Surveillance Facilities (FACSFACs) worldwide. Landing Systems initiatives include re-engineering and technology insertion efforts for the Precision Approach Radar, Tactical Air Navigation System, and other landing systems.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|--------------|-------------|---------------|
| Title: NAS MOD VIDS | 0.419 | 0.397 | 0.194 | - | 0.194 |
| Articles: | 0 | 0 | 0 | | 0 |
| Description: Continue engineering development of pre-planned product improvements for the VIDS and initiate efforts to incorporate VIDS into the FACSFACs. Research display alternatives for Navy ATC systems, and evaluate alternatives for future communication and radar systems. | | | | | |
| FY 2010 Accomplishments: Continued engineering development of Pre-Planned Product Improvements for VIDS to develop additional capabilities into VIDS. | | | | | |
| FY 2011 Plans: Continue engineering development of Pre-Planned Product Improvements for VIDS to develop additional capabilities into VIDS. | | | | | |
| FY 2012 Base Plans: Continue engineering development of Pre-Planned Product Improvements for VIDS to incorporate multiple weather source inputs. Continue Standard Terminal Automation Replacement System and VIDS engineering | | | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604504N: <i>Air Control</i> | PROJECT 1657: <i>ATC Improvement</i> |
|---|---|--|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|--------------|-------------|---------------|
| development for technology insertion. Begin engineering efforts to maintain interoperability with the FAA's next generation air traffic control system. | | | | | |
| Title: Fleet ATC Systems | 0.022 | 0.017 | 0.200 | - | 0.200 |
| Articles: | 0 | 0 | 0 | | 0 |
| Description: Research efforts to determine the best technical approach to integrate various data link and communication system upgrades into Navy/Marine Corps ATC Systems including but not limited to the Digital Airport Surveillance Radar (DASR) into the FACSFAC Fleet Area Control Tracking System (FACTS) 3200 system. Evaluate alternatives for future processor/display, sensor and communication systems. | | | | | |
| FY 2010 Accomplishments: Completed development of DASR interface with FACTS software. | | | | | |
| FY 2011 Plans: Identify components for Navy Scheduling System (NAVSKED)/FACTS Technology Refresh. Begin engineering efforts to maintain interoperability with the FAA's next generation air traffic control system. | | | | | |
| FY 2012 Base Plans: Continue engineering development for NAVSKED/FACTS Technology Refresh and engineering efforts to maintain interoperability with the FAA's next generation air traffic control system. | | | | | |
| Accomplishments/Planned Programs Subtotals | 0.441 | 0.414 | 0.394 | - | 0.394 |

| C. Other Program Funding Summary (\$ in Millions) | | | | | | | | | | | |
|--|----------------|----------------|---------------------|--------------------|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012 Base</u> | <u>FY 2012 OCO</u> | <u>FY 2012 Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To Complete</u> | <u>Total Cost</u> |
| • OPN/2840: <i>National Air Space System Modernization</i> | 28.899 | 17.531 | 26.054 | 0.000 | 26.054 | 17.190 | 20.037 | 30.085 | 30.619 | Continuing | Continuing |
| • OPN/2845: <i>Fleet Air Traffic Control Systems</i> | 7.798 | 6.851 | 7.213 | 0.000 | 7.213 | 6.898 | 7.785 | 8.369 | 8.514 | Continuing | Continuing |

D. Acquisition Strategy
All projects are non-ACAT upgrades to existing systems. An evolutionary acquisition approach is being used to introduce technology advancements that either satisfy emergent requirements or address supportability and cost of ownership problems.

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604504N: <i>Air Control</i> | PROJECT 1657: <i>ATC Improvement</i> |

E. Performance Metrics

The ATC Improvement program goal is to continue to research, evaluate and develop display and other alternatives for Navy ATC, communication and radar systems.

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | | | | R-1 ITEM NOMENCLATURE | | | | | | | |
|---|----------------|----------------|---------------------|--|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | PE 0604512N: <i>Shipboard Aviation Systems</i> | | | | | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| Total Program Element | 76.148 | 70.117 | 45.445 | - | 45.445 | 18.829 | 31.000 | 20.154 | 20.460 | Continuing | Continuing |
| 2232: <i>CV/CVN Launch and Recover</i> | 74.953 | 70.117 | 45.445 | - | 45.445 | 18.829 | 31.000 | 20.154 | 20.460 | Continuing | Continuing |
| 9999: <i>Congressional Adds</i> | 1.195 | - | - | - | - | - | - | - | - | 0.000 | 1.195 |

A. Mission Description and Budget Item Justification

CV Launch & Recovery System - This Navy unique project addresses the System Development and Demonstration (SDD) of all systems required to recover and launch Navy/Marine Corps Aircraft (Fixed/Rotary Wing and Vertical/Short Take Off and Landing (VSTOL)) operating aboard aircraft carriers (CVN), amphibious assault ships (LHA/LHD) and air capable ships. This program element includes the following:

- (1) Advanced Arresting Gear (AAG)
- (2) Aviation Data Management and Control System (ADMACS)
- (3) Electromagnetic Aircraft Launch System (EMALS)
- (4) Advanced Launch Control System (ALCS)
- (5) Compact Swaging Machine (CSM)
- (6) Aircraft Launch & Recovery Equipment (ALRE) Modernization
- (7) Aircraft Launch and Recovery Equipment (ALRE) Service Life Management program (SLMP)
- (8) Advanced Prognostics for Steam Catapults (APSC)

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604512N: <i>Shipboard Aviation Systems</i> |
|---|--|

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 78.496 | 70.117 | 34.068 | - | 34.068 |
| Current President's Budget | 76.148 | 70.117 | 45.445 | - | 45.445 |
| Total Adjustments | -2.348 | - | 11.377 | - | 11.377 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | -0.340 | - | | | |
| • SBIR/STTR Transfer | -1.389 | - | | | |
| • Program Adjustments | - | - | 12.685 | - | 12.685 |
| • Section 219 Reprogramming | -0.617 | - | - | - | - |
| • Rate/Misc Adjustments | - | - | -1.308 | - | -1.308 |
| • Congressional General Reductions Adjustments | -0.002 | - | - | - | - |

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 9999: *Congressional Adds*

Congressional Add: *Voyage Repair Team Tool Management*

Congressional Add Subtotals for Project: 9999

Congressional Add Totals for all Projects

| | FY 2010 | FY 2011 |
|--|----------------|----------------|
| | 1.195 | - |
| | 1.195 | - |
| | 1.195 | - |

Change Summary Explanation

Schedule:

2232: Advanced Arresting Gear (AAG): The AAG System Design and Development (SDD) integrated testing program at the Jet Car Track Site (JCTS) experienced hardware installation, integration and commissioning issues, resulting in the delay of the start of Deadload testing; the completion of JCTS and RALS; and Milestone C slipped to 2nd QTR FY2013. Deadload testing at JCTS is now scheduled to commence 2nd QTR FY2011.

Compact Swaging Machine (CSM) - Due to the addition of a shipboard test to reduce risk and to meet fleet priorities, the Performance and EMI Shock Test scheduled to begin in 2Q FY2010 moved to 1Q FY2011.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | R-1 ITEM NOMENCLATURE |
|---|--|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | PE 0604512N: <i>Shipboard Aviation Systems</i> |

Advance Launch Control System (ALCS) - Due to the change in program acquisition strategy (contractor vs government design), the hardware, software and algorithm initiatives that were scheduled to begin in 1Q FY2011 were moved into 3Q FY2014. The development and analysis; trade studies; algorithm analysis, and development of acquisition documentation will start in FY2011.

Improved Fresnel Lens Optical Landing System (IFLOLS) - Due to the addition of an IFLOLS shipboard test as a risk mitigation effort, the integrated test period has been extended into 4Q FY2014.

Technical: Not Applicable.

UNCLASSIFIED

| | | | | | | | | | | | |
|---|----------------|----------------|---------------------|--|----------------------|----------------|----------------|--|----------------|-------------------------|-------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | | | | | | | DATE: February 2011 | | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | R-1 ITEM NOMENCLATURE PE 0604512N: <i>Shipboard Aviation Systems</i> | | | | PROJECT 2232: <i>CV/CVN Launch and Recover</i> | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| 2232: <i>CV/CVN Launch and Recover</i> | 74.953 | 70.117 | 45.445 | - | 45.445 | 18.829 | 31.000 | 20.154 | 20.460 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 4 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

This Navy unique project addresses the System Development and Demonstration (SDD) of all systems required to recover and launch Navy/Marine Corps Aircraft (Fixed/Rotary Wing and Vertical/Short Take-Off and Landing (VSTOL)) operating aboard aircraft carriers (CVN), amphibious assault ships (LHA/LHD) and air capable ships. This program includes the following systems under Project 2232, including the funding of production representative models (PRM) for:

- (1). Advanced Arresting Gear (AAG): The AAG program will design, develop, test and field an aircraft arrestment system to replace the MK7 arresting gear. AAG systems will be installed on all new construction aircraft carriers. AAG will provide the U.S. Navy with improved operational capability, while reducing operating and support costs. The AAG system will recover all existing and projected carrier based tail hook-equipped air vehicles well into the 21st century. The AAG Program's SDD phase test articles will consist of a land based, single wire configured aircraft arresting system, which includes associated hardware and software needed to conduct system integrated testing by arresting both dead-loads and aircraft.

- (2). Aviation Data Management and Control System (ADMACS): ADMACS will use information technology and decision support systems to automate collection and distribution of information, enabling aviation operations on board aircraft carriers to be accomplished in a more efficient and effective manner.
 - (a). ADMACS Block 2: Is a shipboard aviation information management system providing CVN aviation planning, execution and readiness assessment using integrated decision aids and supporting systems built into a highly adaptive system. ADMACS Block 2 provides a real time, fault tolerant (redundant), tactical information management system. The Block 2 test article consists of network switches, servers, workstations and affiliated database and communications software.
 - (b). ADMACS Block 3: ADMACS Block 3 begins to automate data input through various system interfaces; as well as intelligent agents and decision aides. These capabilities are added to the Block 2 architecture.

- (3). Electromagnetic Aircraft Launch System (EMALS) Technology Insertion: EMALS will be the fixed wing aircraft catapult for the CVN-78 class of aircraft carriers. The program will further the development and insertion of applicable emerging technologies into EMALS capitalizing on the full capability of the system. The test article (FY12) will be manufactured, installed at the EMALS System Functional Demonstration (SFD) site and tested. The EMALS system was developed under the carrier system development program element (0603512N).

- (4). Advanced Launch Control System (ALCS): ALCS will introduce control, prognostics and health monitoring technology into the steam catapult; providing a common operator interface, reduced maintenance, and enhanced availability. The insertion of an array of sensors into the steam catapult, an information technology (IT) infrastructure, algorithm development, and integration with ADMACS will provide health monitoring and prognostics, as well as maintenance and workload reductions.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604512N: <i>Shipboard Aviation Systems</i> | PROJECT 2232: <i>CV/CVN Launch and Recover</i> |
|---|--|--|

(5). Compact Swaging Machine (CSM): Funded by ONR (OSD PE# 060051D8Z) in FY 2009. The current process of pouring zinc sockets to attach the arresting gear purchase cable will be replaced with a new swaged terminal design that will be pressed on by means of a high density, compact, swaging machine.

(6). Aircraft Launch & Recovery Equipment (ALRE) Modernization:

(a). Improved Fresnel Lens Optical Landing System (IFLOLS) Phase 4: Control system processor and digital interfaces upgrades to support Built-In-Test (BIT), ADMACS integration & maintenance /obsolescence reduction.

(b). Improved Manually Operated Visual Landing Aid System (IMOVLAS): IMOVLAS will be the manual backup for IFLOLS which is the primary carrier Visual Landing Aid (VLA). IMOVLAS will be used in high sea states or if IFLOLS is inoperable, and will mirror current IFLOLS configuration in size & display.

(7). ALRE Service Life Management Program (SLMP): The ALRE SLMP for Catapult and Arresting Gear Systems is required to sustain carrier aviation operations of higher energy aircraft launch and recoveries that are increasing loads on the Launcher & Arresting Systems, that are affecting availability, maintainability and cost. This program will consist of service life assessment and extension initiatives and will establish the design foundation (structural, reliability, and maintainability analyses), permit appropriate assessment, track and focus design changes where most needed.

(8). Advanced Prognostics for Steam Catapults (APSC): This program was previously funded under Office of Naval Research PE 0203761N Technology Insertion Program for Savings (TIPS). APSC Waterbrake Monitoring Systems (WBMS) is intended to introduce diagnostics that assess the health of the catapult water brake by leveraging lessons learned from engineering investigations and an algorithm already in development.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|---|-------------|-------------|-------------|
| <p>Title: AAG</p> <p align="right">Articles:</p> <p>Description: The AAG program will design, develop, test and field an aircraft arrestment system to replace the MK7 arresting gear. Provide engineering and management support for the AAG SDD program.</p> <p>FY 2010 Accomplishments: Awarded contract for first ship-set production. Conducted Test Readiness Reviews (TRRs). Completed upgrades to the Jet Car Track Site (JCTS) and Runway Arrested Landing Site (RALS). Delivered test system to the NAVAIR Lakehurst JCTS test site. Installed test system at JCTS. Integrated and commissioned test system hardware.</p> <p>FY 2011 Plans: Continue JCTS integrated testing. Prepare RALS test site. Remove test system from JCTS in preparation for installation at RALS.</p> <p>FY 2012 Plans:</p> | 65.268 0 | 54.127 0 | 27.222 0 |

UNCLASSIFIED

| | | | | |
|---|--|--|----------------|----------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604512N: <i>Shipboard Aviation Systems</i> | PROJECT 2232: <i>CV/CVN Launch and Recover</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| Complete JCTS integrated testing. Install, integrate and commission test system at RALS. Conduct integrated testing at RALS. Conduct system maintenance demonstration at RALS. | | | | |
| <p>Title: ADMACS Block 2</p> <p>Articles:</p> <p>Description: ADMACS Block 2 provides real time, fault tolerant (redundant), tactical information management system.</p> <p>FY 2010 Accomplishments: Completed Block 2 Developmental and Formal Qualification Testing which validated the operational application of the software. Conducted MS C. Commence installation of ADMACS Block 2 system on board CVN.</p> <p>FY 2011 Plans: Complete installation onboard CVN. Conduct Technical and Operational Evaluation.</p> | | 5.635 0 | 0.102 0 | - |
| <p>Title: ADMACS Block 3</p> <p>Articles:</p> <p>Description: ADMACS Block 3 begins to automate data input through various system interfaces; as well as intelligent agents and decision aides. These capabilities are added to the Block 2 architecture.</p> <p>FY 2011 Plans: Conduct System Requirement Review. Begin software and hardware development. Develop interfaces for ADMACS Block 3.</p> <p>FY 2012 Plans: Conduct Test Readiness Review and Functional Qualification Testing.</p> | | - | 3.619 1 | 3.912 0 |
| <p>Title: EMALS Technology Insertion</p> <p>Articles:</p> <p>Description: EMALS will be the fixed wing aircraft catapult for the CVN-78 class of aircraft carriers. The program will further the development and insertion of applicable emerging technologies into EMALS capitalizing on the full capability of the system. Test articles (FY12) will be manufactured, installed at the EMALS SFD site and tested.</p> <p>FY 2011 Plans: Develop system/software for integration into the ship-set design. Provide development, management, system engineering, test, and ship integration support.</p> <p>FY 2012 Plans:</p> | | - | 1.621 0 | 1.788 1 |

UNCLASSIFIED

| | | | | |
|---|--|--|----------------|----------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604512N: <i>Shipboard Aviation Systems</i> | PROJECT 2232: <i>CV/CVN Launch and Recover</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| Continue system/software for integration into the ship-set design. Provide development, management, system engineering, test, and ship integration support. Test articles will be manufactured, installed and tested at the EMALS (SFD) site. | | | | |
| <p>Title: ALCS</p> <p align="right">Articles:</p> <p>Description: ALCS- Introduce control, prognostics and health monitoring technology into the steam catapult, providing a common operator interface, reduced maintenance and enhanced availability.</p> <p>FY 2011 Plans: Perform Reduction in Total Ownership Cost analysis, Sensor Technology Trade Study, Algorithm Analysis, Diminishing Manufacturing Sources and Material Shortages (DMSMS) Analysis, and support Capability Development Document and CONOPS Development.</p> <p>FY 2012 Plans: Develop Test and Evaluation Master Plan, and begin Information Assurance Strategy.</p> | | - | 2.631 0 | 2.123 0 |
| <p>Title: Compact Swaging Machine</p> <p align="right">Articles:</p> <p>Description: Compact Swaging Machine - This program will replace the current process for attaching the terminal on the arresting gear purchase cable with a swaged terminal design that will be pressed on by means of a high density, compact, swaging machine.</p> <p>Funded by ONR (PE# 060051D8Z) in FY 2009.</p> <p>FY 2010 Accomplishments: Conduct functional testing on prototype unit developed under Defense Acquisition Challenge Program funding (OSD PE 0604051D8Z).</p> <p>FY 2011 Plans: Implement design modifications into the prototype unit and conduct performance testing, consisting of bench testing, jet car track testing and aircraft testing.</p> <p>FY 2012 Plans: Conduct shipboard test & evaluation.</p> | | 2.350 0 | 1.503 1 | 0.500 0 |
| Title: ALRE Modernization | | 1.700 | 3.507 | 2.400 |

UNCLASSIFIED

UNCLASSIFIED

| | | | | |
|--|--|--|----------------|----------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604512N: <i>Shipboard Aviation Systems</i> | PROJECT 2232: <i>CV/CVN Launch and Recover</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| Articles: | | 0 | 2 | 0 |
| <p>Description: IFLOLS and IMOVLAS to improve carrier aviations operations.</p> <p>FY 2010 Accomplishments: IFLOLS - Develop acquisition strategy; develop preliminary ECP; generate systems requirements; conduct preliminary trade studies (10 individual studies); conduct System Requirements Review (SRR); commence preliminary design.</p> <p>FY 2011 Plans: IFLOLS - Continue preliminary design; conduct Preliminary Design Reviews (PDR); conduct Critical Design Review (CDR).</p> <p>FY 2012 Plans: IFLOLS - Develop production representative model; conduct integration, environmental, functional & performance testing; conduct TRR. IMOVLAS - System specification will be developed and verified at SRR. Conduct CDR.</p> | | | | |
| Title: ALRE SLMP | | - | 3.007 | 5.400 |
| Articles: | | | 0 | 0 |
| <p>Description: ALRE SLMP is to study the C-13 catapult and MK7 arresting gear to determine where to design fielded equipment improvement. Address fielding of higher energy aircraft.</p> <p>FY 2011 Plans: Development of a load sensitive reliability model to determine the effect of the air wing on catapult and arresting gear.</p> <p>FY 2012 Plans: Continue development of a system load sensitive reliability model and prioritize Service Life Extension (SLE) efforts.</p> | | | | |
| Title: APSC | | - | - | 2.100 |
| Articles: | | | | 0 |
| <p>Description: FY2012 new start. APSC: This program was previously funded under Office of Naval Research PE 0203761N Technology Insertion Program for Savings (TIPS). The APSC Waterbrake Monitoring Systems WBMS is intended to introduce diagnostics that assess the health of the catapult water brake by leveraging lessons learned from engineering investigations and an algorithm already in development.</p> <p>FY 2012 Plans:</p> | | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604512N: <i>Shipboard Aviation Systems</i> | PROJECT 2232: <i>CV/CVN Launch and Recover</i> |
|---|--|--|

| | | | |
|---|----------------|----------------|----------------|
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
| Perform detail design. | | | |
| Accomplishments/Planned Programs Subtotals | 74.953 | 70.117 | 45.445 |

C. Other Program Funding Summary (\$ in Millions)

| Line Item | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|---------|---------|-----------------|----------------|------------------|---------|---------|---------|---------|---------------------|------------|
| • OPN/4216: <i>Aircraft Launch & Recovery Equipment</i> | 39.683 | 37.063 | 19.777 | 0.000 | 19.777 | 83.097 | 65.710 | 49.096 | 56.107 | Continuing | Continuing |
| • OPN/9020: <i>Aircraft Launch & Recovery Equipment Spares</i> | 2.187 | 0.570 | 0.014 | 0.000 | 0.014 | 0.508 | 0.208 | 0.000 | 0.000 | 0.000 | 3.887 |

D. Acquisition Strategy

AAG: The Navy competitively awarded two Cost Plus Fixed Fee Technical Development phase contracts to develop the AAG. Upon completion of the Preliminary Design and Integrated Baseline Reviews, the Navy awarded a single Cost Plus Award Fee option to General Atomics for the SDD phase to develop and demonstrate a production representative AAG at the NAVAIR Lakehurst JCTS and RALS. In March 2009, the AAG program awarded a SDD contract modification to General Atomics for Transition to Production planning.

ADMACS: The Navy continues to design and develop ADMACS using commercially available servers, switches, workstations and database and communications software. One EDM system has been procured from a directed 8(a) Alaskan Native Corporation source.

EMALS: Technology Insertion: The Navy will develop emerging technologies for insertion into EMALS and award a contract to develop, manufacture, and install test articles at the EMALS System Functional Demonstration (SFD) site at Lakehurst, N.J.

ALCS: Develop and test system improvements for the MK-13 steam catapult.

Compact Swaging Machine: The Navy will amend an existing Small Business Technology Transfer (STTR) Phase III contract in order to build and test a prototype high density swaging machine which has been developed under Defense Acquisition Challenge Program funding (OSD PE 060051D8Z).

Aircraft Launch & Recovery Equipment (ALRE) Modernization:

- (a) IFLOLS Phase IV: The Navy will develop IFLOLS using commercial equipment racks, processors, & displays.
- (b) IMOVLAS: The Navy will develop IMOVLAS using commercial equipment racks, processors, and displays.

UNCLASSIFIED

| | | |
|--|--|--|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604512N: <i>Shipboard Aviation Systems</i> | PROJECT 2232: <i>CV/CVN Launch and Recover</i> |
| <p>ALRE SLMP: This program will consist of Service Life Assessment and Extension initiatives and will establish the design foundation (structural, reliability, and maintainability analyses), permit appropriate assessment, track and focus design changes where most needed.</p> <p>APSC: The Navy will design and develop the APSC system utilizing commercially available sensors, data acquisition systems and computer processors. The Navy will award a contract(s) to procure components for System Functional Demonstration (SFD) site at Lakehurst, N.J., shipboard demonstration and for final system implementation.</p> <p><u>E. Performance Metrics</u></p> <p>AAG will complete SDD integrated testing at JCTS and RALS. Demonstrating key performance parameters and readiness for operational test.</p> | | |

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604512N: <i>Shipboard Aviation Systems</i> | PROJECT 2232: <i>CV/CVN Launch and Recover</i> |
|---|--|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Primary HW Dev-AAG | C/CPFF | Northrop Grum:Sunnyvale, CA | 12.418 | - | | - | | - | | - | 0.000 | 12.418 | 12.418 |
| Primary HW Dev -AAG | C/CPAF | Gen Atomics:San Diego, CA | 173.242 | 25.100 | Dec 2010 | 10.688 | Dec 2011 | - | | 10.688 | 0.000 | 209.030 | 211.852 |
| Award Fees-AAG | C/CPAF | Gen Atomics:San Diego, CA | 3.392 | 3.607 | Aug 2011 | 5.300 | Aug 2012 | - | | 5.300 | 0.000 | 12.299 | 15.030 |
| Primary HW Dev-AAG | WR | NAWCAD:Lakehurst, NJ | 15.497 | 8.805 | Nov 2010 | 1.240 | Nov 2011 | - | | 1.240 | 1.277 | 26.819 | |
| System Eng-AAG | WR | NAWCAD:Lakehurst, NJ | 12.053 | 2.919 | Nov 2010 | 1.262 | Nov 2011 | - | | 1.262 | 0.892 | 17.126 | |
| System Eng-AAG | C/CPFF | L3 Services,Inc.:Marlton, NJ | 0.198 | 0.096 | Feb 2011 | - | | - | | - | 0.000 | 0.294 | 5.700 |
| Shipboard Intgrn-AAG | WR | NAWCAD:Lakehurst, NJ | 2.519 | 2.836 | Nov 2010 | 0.264 | Nov 2011 | - | | 0.264 | 1.045 | 6.664 | |
| Systems Engineering -AAG | C/CPFF | Wyle Lab, Inc:Huntsville, AL | 0.103 | - | | - | | - | | - | 0.000 | 0.103 | 0.103 |
| Primary HW Dev-ADMACS BLK 2 | WR | NAWCAD:Lakehurst, NJ | 7.034 | - | | - | | - | | - | 0.000 | 7.034 | |
| Product Dev-ADMACS BLK 2 | C/CPFF | Specialty Sys:Tom River ,NJ | 0.508 | - | | - | | - | | - | 0.000 | 0.508 | 0.508 |
| Product Dev Supt-ADMACS BLK 2 | C/CPFF | Sabre Sys:Warminster, PA | 3.203 | - | | - | | - | | - | 0.000 | 3.203 | 3.203 |
| Shipboard Integ-ADMACS BLK 2 | WR | NAWCAD:Lakehurst, NJ | 1.200 | - | | - | | - | | - | 0.000 | 1.200 | |
| Shipboard Integ-ADMACS BLK 2 | WR | PSNS:Bremerton, WA | 0.100 | - | | - | | - | | - | 0.000 | 0.100 | |
| System Eng-ADMACS BLK 2 | WR | NAWCAD:Lakehurst, NJ | 0.140 | - | | - | | - | | - | 0.000 | 0.140 | |
| Primary HW Dev-ADMACS BLK 3 | WR | NAWCAD:Lakehurst, NJ | - | 3.259 | Jan 2011 | 3.912 | Nov 2011 | - | | 3.912 | 6.275 | 13.446 | |
| System Eng-ADMACS Blk 3 | WR | | - | 0.180 | Jan 2011 | - | | - | | - | 0.900 | 1.080 | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604512N: <i>Shipboard Aviation Systems</i> | PROJECT 2232: <i>CV/CVN Launch and Recover</i> |
|---|--|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| | | NAWCAD:Lakehurst, NJ | | | | | | | | | | | |
| Primary HW Dev-EMALS Tech Insert | C/CPFF | Specialty Sys Inc:Toms River, NJ | - | 1.182 | Mar 2011 | 1.344 | Dec 2011 | - | | 1.344 | 18.644 | 21.170 | 21.582 |
| System Eng-EMALS Tech Insert | WR | NAWCAD:Lakehurst, NJ | - | 0.326 | Nov 2010 | 0.329 | Nov 2011 | - | | 0.329 | 1.681 | 2.336 | |
| System Eng-ALCS | WR | NAWCAD:Lakehurst, NJ | - | 2.503 | Nov 2010 | 1.933 | Nov 2011 | - | | 1.933 | 0.000 | 4.436 | |
| Primary HW Dev-Swaging Mach | SS/CPFF | Creare Inc.:Hanover, NH | 2.150 | - | | - | | - | | - | 0.000 | 2.150 | 4.300 |
| System Eng-Swaging Mach | WR | NAWCAD:Lakehurst, NJ | 0.040 | 0.050 | Nov 2010 | 0.050 | Nov 2011 | - | | 0.050 | 0.000 | 0.140 | |
| Primary HW Dev-Modern IFLOLS | WR | NAWCAD:Lakehurst, NJ | 0.408 | 0.254 | Nov 2010 | 0.600 | Nov 2011 | - | | 0.600 | 0.000 | 1.262 | |
| System Eng-Modern IFLOLS | WR | NAWCAD:Lakehurst, NJ | 1.292 | 2.723 | Nov 2010 | - | | - | | - | 0.000 | 4.015 | |
| Primary HW Dev-Modern IMOVLAS | WR | NAWCAD:Lakehurst, NJ | - | - | | 0.100 | Nov 2011 | - | | 0.100 | 0.100 | 0.200 | |
| System Eng-Modern IMOVLAS | WR | NAWCAD:Lakehurst, NJ | - | - | | 0.650 | Nov 2011 | - | | 0.650 | 0.200 | 0.850 | |
| System Eng-ALRE Srv Life Mgnt | WR | NAWCAD:Lakehurst, NJ | - | 2.807 | Mar 2011 | 5.200 | Nov 2011 | - | | 5.200 | 16.800 | 24.807 | |
| System Eng-APSC | WR | NAWCAD:Lakehurst, NJ | - | - | | 1.900 | Nov 2011 | - | | 1.900 | 1.900 | 3.800 | |
| Subtotal | | | 235.497 | 56.647 | | 34.772 | | - | | 34.772 | 49.714 | 376.630 | |

Remarks

Award Fee is 10% of estimated cost of SDD contract.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604512N: <i>Shipboard Aviation Systems</i> | PROJECT 2232: <i>CV/CVN Launch and Recover</i> |
|---|--|--|

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| ILS-AAG | WR | NAWCAD:Lakehurst, NJ | 5.757 | 2.813 | Nov 2010 | 1.505 | Nov 2011 | - | | 1.505 | 2.489 | 12.564 | |
| ILS-ADMACS BLK 2 | WR | NAWCAD:Lakehurst, NJ | 0.150 | - | | - | | - | | - | 0.000 | 0.150 | |
| ILS-ADMACS BLK 3 | WR | NAWCAD:Lakehurst, NJ | - | 0.180 | Jan 2011 | - | | - | | - | 0.483 | 0.663 | |
| ILS-ALCS | WR | NAWCAD:Lakehurst, NJ | - | 0.128 | Nov 2010 | 0.140 | Nov 2011 | - | | 0.140 | 0.000 | 0.268 | |
| ILS-Swaging Machine | WR | NAWCAD:Lakehurst, NJ | 0.010 | 0.075 | Nov 2010 | 0.075 | Nov 2011 | - | | 0.075 | 0.000 | 0.160 | |
| ILS-Modern IFLOLS | WR | NAWCAD:Lakehurst, NJ | - | 0.300 | Nov 2010 | 0.500 | Nov 2011 | - | | 0.500 | 0.275 | 1.075 | |
| ILS-Modern IMOVLAS | WR | NAWCAD:Lakehurst, NJ | - | - | | 0.050 | Nov 2011 | - | | 0.050 | 0.300 | 0.350 | |
| ILS-ALRE Service Life Mgnt | WR | NAWCAD:Lakehurst, NJ | - | 0.200 | Mar 2011 | 0.200 | Nov 2011 | - | | 0.200 | 0.600 | 1.000 | |
| ILS-APSC | WR | NAWCAD:Lakehurst, NJ | - | - | | 0.200 | Nov 2011 | - | | 0.200 | 0.200 | 0.400 | |
| Subtotal | | | 5.917 | 3.696 | | 2.670 | | - | | 2.670 | 4.347 | 16.630 | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Dev Test & Eval-AAG | WR | NAWCAD:Lakehurst, NJ | 8.541 | 2.221 | Nov 2010 | 0.816 | Nov 2011 | - | | 0.816 | 1.371 | 12.949 | |
| Operational T&E-AAG | WR | Various:Various | 1.120 | 0.222 | Dec 2010 | 0.230 | Dec 2011 | - | | 0.230 | 2.300 | 3.872 | |
| Facility Test-JCTS/RALS AAG | WR | NAWCAD:Lakehurst, NJ | 2.799 | 5.333 | Nov 2010 | 5.704 | Nov 2011 | - | | 5.704 | 9.650 | 23.486 | |
| Dev Test Lab-ADMACS BLK 2 | WR | NAWCAD:Lakehurst, NJ | 0.450 | - | | - | | - | | - | 0.000 | 0.450 | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604512N: <i>Shipboard Aviation Systems</i> | PROJECT 2232: <i>CV/CVN Launch and Recover</i> |
|---|--|--|

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Integrated Test-ADMACS BLK 2 | WR | NAWCAD:Lakehurst, NJ | 0.133 | 0.102 | Nov 2010 | - | | - | | - | 0.000 | 0.235 | |
| Dev Test & Eval-EMALS Tech Insert | WR | NAWCAD:Lakehurst, NJ | - | 0.113 | Nov 2010 | 0.115 | Nov 2011 | - | | 0.115 | 0.707 | 0.935 | |
| Dev Test & Eval-ALCS | WR | NAWCAD:Lakehurst, NJ | - | - | | 0.050 | Nov 2011 | - | | 0.050 | 5.960 | 6.010 | |
| Dev Test & Eval-Modern IFLOLS | WR | NAWCAD:Lakehurst, NJ | - | 0.200 | Nov 2010 | 0.500 | Nov 2011 | - | | 0.500 | 0.000 | 0.700 | |
| Performance Testing-Swaging Machine | WR | NAWCAD:Lakehurst, NJ | 0.150 | 1.378 | Nov 2010 | 0.375 | Nov 2011 | - | | 0.375 | 0.000 | 1.903 | |
| Subtotal | | | 13.193 | 9.569 | | 7.790 | | - | | 7.790 | 19.988 | 50.540 | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Prgm Mgmt Supt | C/CPFF | Sierra:California, MD | 0.675 | 0.160 | Dec 2010 | 0.163 | Dec 2011 | - | | 0.163 | 0.000 | 0.998 | 1.534 |
| Travel | Reqn | NAVAIR:Pax River, MD | 0.627 | 0.045 | Nov 2010 | 0.050 | Nov 2011 | - | | 0.050 | 0.000 | 0.722 | |
| Subtotal | | | 1.302 | 0.205 | | 0.213 | | - | | 0.213 | 0.000 | 1.720 | |

| | Total Prior Years Cost | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|-------------------------------|----------------|--------|---------------------|--------|--------------------|---|----------------------|-------------------------|-------------------|---------------------------------|
| Project Cost Totals | | 255.909 | 70.117 | | 45.445 | | - | 45.445 | 74.049 | 445.520 | |

Remarks

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604512N: <i>Shipboard Aviation Systems</i> | PROJECT 2232: <i>CV/CVN Launch and Recover</i> |
|---|--|--|

| AVIATION DATA MANAGEMENT & CONTROL SYSTEM (ADMACS) BLK 3 | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | | | | |
|---|---------|----|----|----|-----------|-----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|--|--|--|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | | | |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Systems Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Software and Hardware Design | | | | | Dev Phase | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reviews | | | | | PDR | CDR | | | TRR | | | | | | | | | | | | | | | | | | | | | | |
| Test & Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Technical Evaluation | | | | | | | | | DDI&FT | | | | | | | | | | | | | | | | | | | | | | |
| Production Milestone | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contract Awards | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604512N - 2232

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604512N: <i>Shipboard Aviation Systems</i> | PROJECT 2232: <i>CV/CVN Launch and Recover</i> |
|---|--|--|

| EMALS TECHNOLOGY INSERTION (EMALS) | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|------------------------------------|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| System Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hardware/Software Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reviews | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test and Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Technical Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operational Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contract Awards | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604512N - 2232

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604512N: *Shipboard Aviation Systems*

PROJECT

2232: *CV/CVN Launch and Recover*

| ADVANCED LAUNCH CONTROL SYSTEM (ALCS) | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | | | | | |
|---------------------------------------|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|--|--|--|--|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | | | | |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Systems Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hardware/Software Development | | | | | RA&TS | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hardware Design and Integration | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Software Design | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reviews | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test and Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Technical Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operational Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contract Awards | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604512N - 2232

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604512N: <i>Shipboard Aviation Systems</i> | PROJECT 2232: <i>CV/CVN Launch and Recover</i> |
|---|--|--|

| COMPACT SWAGING MACHINE (CSM) | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | | |
|-------------------------------|-----------------|----|-------------------|------------------|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|--|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Systems Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hardware Development | Prototype Build | | IDM ▼ | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reviews | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Development Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test Unit 1 ▼ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test and Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Technical Evaluation | | | Functional Test ▼ | Performance Test | | | | | | | | | | | | | | | | | | | | | | | | | |
| EMI Test ▼ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Shipboard T&E | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contract Award | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604512N - 2232

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604512N: <i>Shipboard Aviation Systems</i> | PROJECT 2232: <i>CV/CVN Launch and Recover</i> |
|---|--|--|

| ALRE MODERNIZATION-Improved Fresnel Lens Optical Landing Sys (IFLOLS) | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|--|---------|----|----|----|---------|----|----|-----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Systems Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hardware/Software Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Review | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | CDR | TRR | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | ■ | ■ | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test and Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operational Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Technical Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contract Awards | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604512N - 2232

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604512N: *Shipboard Aviation Systems*

PROJECT

2232: *CV/CVN Launch and Recover*

| ALRE MODERNIZATION - Improved Manually Operated Visual Landing Aide Sys (IMOVLAS) | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|--|---------|----|----|----|---------|----|----|----|---------|----|----------|----|---------|----------|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Systems Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hardware/Software Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Review | | | | | | | | | | | CDR ■ | | | TRR ■ | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test and Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operational Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Technical Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contract Awards | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604512N - 2232

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604512N: <i>Shipboard Aviation Systems</i> | PROJECT 2232: <i>CV/CVN Launch and Recover</i> |
|---|--|--|

| ALRE SERVICE LIFE MANAGEMENT PROGRAM (SLMP) | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | | | | | | | | | |
|---|---------|----|----|----|--------------|----|----|----|---------|----|----|----|---------|----|------------|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|--|--|--|--|--|--|--|--|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | | | | | | | | |
| Acquistion Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Systems Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hardware/Software Development | | | | | Eng Analysis | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | Design Dev | | | | | | | | | | | | | | | | | | | | | |
| Test & Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Technical Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operational Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contract Awards | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604512N - 2232

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604512N: <i>Shipboard Aviation Systems</i> | PROJECT 2232: <i>CV/CVN Launch and Recover</i> |
|---|--|--|

| ADVANCED PROGNOSTICS FOR STEAM CATAPULTS (APSC) | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|---|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q |
| Acquistion Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Systems Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hardware/Software Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| D&T | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Detail Design | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Review | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CDR | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TRR1 Shipbased | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TRR2 Shipboard | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test & Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Technical Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LB Test | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Shipboard Test | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operational Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contract Awards | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604512N - 2232

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604512N: <i>Shipboard Aviation Systems</i> | PROJECT 2232: <i>CV/CVN Launch and Recover</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| ADVANCED ARRESTING GEAR (AAG) | | | | |
| Aquisition Milestones: Milestones: Milestone C | 2 | 2013 | 2 | 2013 |
| Systems Development: Hardware Development: System Design & Development (SDD Phase) | 1 | 2010 | 1 | 2013 |
| Systems Development: Reviews/Assessments: Integrated Logistic Assessment (ILA) | 4 | 2012 | 4 | 2012 |
| Systems Development: Reviews/Assessments: Physical Configuration Assessment (PCA) | 3 | 2015 | 3 | 2015 |
| Systems Development: Reviews/Assessments: Technical Readiness Review (TRR1) JCTS Equipment Commissioning | 1 | 2010 | 1 | 2010 |
| Systems Development: Reviews/Assessments: Letter of Observation (LOO) for ERT1 | 1 | 2010 | 1 | 2010 |
| Systems Development: Reviews/Assessments: Technical Readiness Review (TRR2A) JCTS Commissioning Deadload | 2 | 2011 | 2 | 2011 |
| Systems Development: Reviews/Assessments: Technical Readiness Review (TRR) RALS | 3 | 2012 | 3 | 2012 |
| Test & Evaluation: Technical Evaluation: Integration Testing (ITB1) | 1 | 2010 | 2 | 2010 |
| Test & Evaluation: Technical Evaluation: Jet Car Test Site (JCTS) Test | 1 | 2010 | 1 | 2012 |
| Test & Evaluation: Technical Evaluation: IT B3 | 1 | 2010 | 1 | 2012 |
| Test & Evaluation: Technical Evaluation: Environmental Qualification Test (EQT) | 4 | 2010 | 3 | 2012 |
| Test & Evaluation: Technical Evaluation: IT B5 | 4 | 2010 | 3 | 2012 |
| Test & Evaluation: Technical Evaluation: Extended Reliability Testing (ERT2) | 3 | 2012 | 2 | 2013 |
| Test & Evaluation: Technical Evaluation: IT B2B | 3 | 2012 | 2 | 2013 |
| Test & Evaluation: Technical Evaluation: Runway Arrested Landing Site Test (RALS) | 4 | 2012 | 1 | 2013 |
| Test & Evaluation: Technical Evaluation: IT B4 | 4 | 2012 | 1 | 2013 |

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604512N: <i>Shipboard Aviation Systems</i> | PROJECT 2232: <i>CV/CVN Launch and Recover</i> |

| Events by Sub Project | Start | | End | |
|---|----------------|-------------|----------------|-------------|
| | Quarter | Year | Quarter | Year |
| Test & Evaluation: Technical Evaluation: Integrated Testing (ITC1) | 1 | 2013 | 4 | 2015 |
| Test & Evaluation: Technical Evaluation: Shipboard Test | 3 | 2013 | 4 | 2013 |
| Test & Evaluation: Technical Evaluation: JCTS Development Test Report (DTR) | 2 | 2012 | 2 | 2012 |
| Test & Evaluation: Technical Evaluation: RALS Development Test Report (DTR) | 2 | 2013 | 2 | 2013 |
| Production Milestones: Contract Award: Low Rate Initial Production (LRIP) OPN | 2 | 2013 | 2 | 2013 |
| Production Milestones: Deliveries: Low Rate Initial Production (LRIP) OPN Qty 3 | 4 | 2014 | 4 | 2014 |
| AVIATION DATA MANAGEMENT & CONTROL SYSTEM (ADMACS) BLK 3 | | | | |
| Systems Development: Software and Hardware Design: Development Phase | 1 | 2011 | 4 | 2013 |
| Systems Development: Reviews: Preliminary Design Review (PDR) | 2 | 2011 | 2 | 2011 |
| Systems Development: Reviews: Critical Design Review (CDR) | 4 | 2011 | 4 | 2011 |
| Systems Development: Reviews: Test Readiness Review (TRR) | 3 | 2012 | 3 | 2012 |
| Test & Evaluation: Technical Evaluation: Design, Development, Integration & Formal Testing (DDI&FT) | 1 | 2012 | 4 | 2013 |
| EMALS TECHNOLOGY INSERTION (EMALS) | | | | |
| System Development: Hardware/Software Development: System Development and Testing | 1 | 2011 | 4 | 2016 |
| System Development: Reviews: Critical Design Review (CDR) | 4 | 2012 | 4 | 2012 |
| System Development: Reviews: Test Readiness Review (TRR) | 4 | 2014 | 4 | 2014 |
| ADVANCED LAUNCH CONTROL SYSTEM (ALCS) | | | | |
| Acquisition Milestones: Milestones: Milestone B | 4 | 2015 | 4 | 2015 |
| Systems Development: Hardware/Software Development: Requirements Analysis & Trade Studies | 1 | 2011 | 4 | 2013 |
| Systems Development: Hardware/Software Development: Algorithm Analysis | 2 | 2011 | 2 | 2011 |
| Systems Development: Hardware/Software Development: RDT&E Contract Award | 3 | 2014 | 3 | 2014 |
| Systems Development: Hardware Design and Integration: Hardware Design | 3 | 2014 | 1 | 2016 |

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604512N: <i>Shipboard Aviation Systems</i> | PROJECT 2232: <i>CV/CVN Launch and Recover</i> |

| Events by Sub Project | Start | | End | |
|---|----------------|-------------|----------------|-------------|
| | Quarter | Year | Quarter | Year |
| Systems Development: Hardware Design and Integration: Hardware Integration | 1 | 2015 | 3 | 2016 |
| Systems Development: Software Design: Software Design | 3 | 2014 | 1 | 2016 |
| Systems Development: Software Design: Algorithm Development | 3 | 2014 | 2 | 2015 |
| Systems Development: Reviews: System Requirement Review (SRR) Government Only | 1 | 2012 | 1 | 2012 |
| Systems Development: Reviews: System Requirement Review (SRR 2) Industry | 3 | 2014 | 3 | 2014 |
| Systems Development: Reviews: System Functional Review (SFR) | 4 | 2014 | 4 | 2014 |
| Systems Development: Reviews: Initial Baseline Review (IBR) | 1 | 2015 | 1 | 2015 |
| Systems Development: Reviews: Preliminary Design Review (PDR) | 3 | 2015 | 3 | 2015 |
| Systems Development: Reviews: Critical Design Review (CDR) | 1 | 2016 | 1 | 2016 |
| COMPACT SWAGING MACHINE (CSM) | | | | |
| Systems Development: Hardware Development: Prototype Build | 2 | 2010 | 3 | 2010 |
| Systems Development: Hardware Development: Incorporate Design Mods (IDM) | 4 | 2010 | 4 | 2010 |
| Systems Development: Reviews: Post Performance & Acceptance CDR | 1 | 2013 | 1 | 2013 |
| Systems Development: Reviews: Program Readiness Review (PRR) | 2 | 2013 | 2 | 2013 |
| Systems Development: Reviews: Configuration Control Board (CCB) | 3 | 2013 | 3 | 2013 |
| Systems Development: Development Deliveries: Deliver Test Unit | 1 | 2011 | 1 | 2011 |
| Test and Evaluation: Technical Evaluation: Functional Testing | 4 | 2010 | 4 | 2010 |
| Test and Evaluation: Technical Evaluation: Performance Testing | 1 | 2011 | 3 | 2011 |
| Test and Evaluation: Technical Evaluation: Electromagnetic Interference (EMI) Shock/ Environmental Test | 2 | 2011 | 2 | 2011 |
| Test and Evaluation: Technical Evaluation: Shipboard Test & Eval | 2 | 2012 | 4 | 2012 |
| ALRE MODERNIZATION-Improved Fresnel Lens Optical Landing Sys (IFLOLS) | | | | |
| Systems Development: Review: Critical Design Review (CDR) | 2 | 2011 | 2 | 2011 |
| Systems Development: Review: Test Readiness Review (TRR) | 3 | 2011 | 3 | 2011 |

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604512N: <i>Shipboard Aviation Systems</i> | PROJECT 2232: <i>CV/CVN Launch and Recover</i> |

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Systems Development: Review: Configuration Control Board (CCB) | 4 | 2014 | 4 | 2014 |
| Test and Evaluation: Technical Evaluation: Integrated Test | 3 | 2011 | 4 | 2014 |
| ALRE MODERNIZATION - Improved Manually Operated Visual Landing Aide Sys (IMOVLAS) | | | | |
| Systems Development: Review: Critical Design Review (CDR) | 3 | 2012 | 3 | 2012 |
| Systems Development: Review: Test Readiness Review (TRR) | 1 | 2013 | 1 | 2013 |
| Systems Development: Review: Configuration Control Board (CCB) | 4 | 2013 | 4 | 2013 |
| Test and Evaluation: Technical Evaluation: Integrated Test | 1 | 2013 | 3 | 2013 |
| ALRE SERVICE LIFE MANAGEMENT PROGRAM (SLMP) | | | | |
| Systems Development: Hardware/Software Development: Engineering Analysis | 1 | 2011 | 4 | 2014 |
| Systems Development: Hardware/Software Development: Design Development | 4 | 2012 | 4 | 2016 |
| ADVANCED PROGNOSTICS FOR STEAM CATAPULTS (APSC) | | | | |
| Systems Development: Hardware/Software Development: Development and Testing | 1 | 2011 | 4 | 2013 |
| Systems Development: Hardware/Software Development: Detail Design | 1 | 2012 | 4 | 2012 |
| Systems Development: Review: Critical Design Review (CDR) | 1 | 2013 | 1 | 2013 |
| Systems Development: Review: Technical Readiness Review (TRR1) (Shorebased) | 1 | 2013 | 1 | 2013 |
| Systems Development: Review: Technical Readiness Review (TRR2) (Shipboard) | 3 | 2013 | 3 | 2013 |
| Test & Evaluation: Technical Evaluation: Land-Based Test | 1 | 2013 | 2 | 2013 |
| Test & Evaluation: Technical Evaluation: Shipboard Test | 3 | 2013 | 4 | 2013 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604512N: <i>Shipboard Aviation Systems</i> | PROJECT 9999: <i>Congressional Adds</i> |
|---|--|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 9999: <i>Congressional Adds</i> | 1.195 | - | - | - | - | - | - | - | - | 0.000 | 1.195 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Congressional Adds

B. Accomplishments/Planned Programs (\$ in Millions)

| | FY 2010 | FY 2011 |
|--|---------|---------|
| Congressional Add: Voyage Repair Team Tool Management | 1.195 | - |
| FY 2010 Accomplishments: Design & develop an integrated Tool Control System within the Voyage Repair Team (VRT) organizations. This will reduce cost, improve work efficiency, and improve the availability of Aircraft Launch & Recovery (ALRE) in support of the Fleet's mission. | | |
| Congressional Adds Subtotals | 1.195 | - |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

Not required for Congressional Adds

E. Performance Metrics

Not required for Congressional Adds

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | | | | R-1 ITEM NOMENCLATURE | | | | | | | |
|---|----------------|----------------|---------------------|--|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | PE 0604518N: <i>Combat Information Center Conv</i> | | | | | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| Total Program Element | 12.757 | 5.044 | 3.400 | - | 3.400 | 3.301 | 3.302 | 3.373 | 3.434 | Continuing | Continuing |
| 3094: <i>USW Decision Support</i> | 12.757 | 5.044 | 3.400 | - | 3.400 | 3.301 | 3.302 | 3.373 | 3.434 | Continuing | Continuing |

A. Mission Description and Budget Item Justification

The objective of this Program Element (PE), under Project 3094, is to provide capabilities to shorten command and control (C2) decision processes for detection-to-engagement across multiple platforms, including those with low-bandwidth communications or intermittent connectivity. The Undersea Warfare Decision Support System (USW-DSS) decision support tool uses a Service Orientated Architecture (SOA) encompassing existing communication links, networks, and contact pictures comprised of sensor data from air, surface, submarine, theater, and surveillance platforms to connect sensors and weapons. The capabilities delivered by USW-DSS are critical not only for the Sea Combat Commander (SCC) but also for the Theater USW Commander (TUSWC) and Anti Submarine Warfare Commander (ASWC) to fulfill the requirement for an integrated capability to plan, conduct, and coordinate USW operations across multiple ASW platforms. USW-DSS will provide common and improved visualization, integrated USW platform sensor data sharing, reduced data entry, improved sensor performance predictions, data fusion, and reduced redundancy across USW Tactical Decision Aids (TDA). The program will provide a greater understanding of the undersea battle space by allowing the entire force (carrier/expeditionary strike group, theater, or other) to have a common and thorough understanding of the battle space with characterized uncertainties.

USW-DSS Build 2 will be hosted on the Integrated Shipboard Network System (ISNS) as one of the first Early Adopters, leveraging initial Service Oriented Architecture (SOA) Reference Implementation. USW-DSS will be hosted on the Consolidated Automated Networks and Enterprise Services (CANES) architecture, which will be fully SOA enabled.

UNCLASSIFIED

| | |
|---|----------------------------|
| Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy | DATE: February 2011 |
|---|----------------------------|

| | |
|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604518N: <i>Combat Information Center Conv</i> |
|---|--|

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 13.250 | 5.044 | 5.036 | - | 5.036 |
| Current President's Budget | 12.757 | 5.044 | 3.400 | - | 3.400 |
| Total Adjustments | -0.493 | - | -1.636 | - | -1.636 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | - | - | | | |
| • SBIR/STTR Transfer | -0.456 | - | | | |
| • Program Adjustments | - | - | -1.547 | - | -1.547 |
| • Section 219 Reprogramming | -0.036 | - | - | - | - |
| • Rate/Misc Adjustments | - | - | -0.089 | - | -0.089 |
| • Congressional General Reductions Adjustments | -0.001 | - | - | - | - |

Change Summary Explanation

Technical: Not applicable.

Schedule: Due to a reprioritization of requirements, the schedule has shifted to the right for USW-DSS Build 3 and Build 4 development and fielding efforts. USW-DSS Build 2, Release 3 will provide an incremental update of Build 2 to field as much capability to the Fleet as possible.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604518N: <i>Combat Information Center Conv</i> | PROJECT 3094: <i>USW Decision Support</i> |
|---|--|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|-----------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 3094: <i>USW Decision Support</i> | 12.757 | 5.044 | 3.400 | - | 3.400 | 3.301 | 3.302 | 3.373 | 3.434 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Project 3094 will develop the USW-DSS that will provide ASW Control and Control capabilities which enable the CNO vision for ASW Superiority using a "coordinated, networked force of submarines, surface ships, aircraft, and Integrated Undersea Surveillance System (IUSS) assets" with "common and unambiguous views that yield operational and tactical situational awareness in the undersea environment."

USW-DSS provides capabilities to shorten C2 decision processes for detection-to-engagement across multiple platforms, including those with low-bandwidth communications or intermittent connectivity. The USW-DSS decision support tool uses a SOA encompassing existing communication links, networks, and contact pictures comprised of sensor data from air, surface, submarine, theater, and surveillance platforms to connect sensors and weapons. The capabilities delivered by USW-DSS are critical not only for the SCC but also for the TUSWC and ASWC to fulfill the requirement for an integrated capability to plan, conduct, and coordinate USW operations across multiple ASW platforms. USW-DSS will provide common and improved visualization, integrated USW platform sensor data sharing, reduced data entry, improved sensor performance predictions, data fusion, and reduced redundancy across USW TDAs. The program will provide a greater understanding of the undersea battle space by allowing the entire force (carrier/expeditionary strike group, theater, or other) to have a common and thorough understanding of the battle space with characterized uncertainties.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| Title: USW-DSS Build 2 Development / Integration / Test | 10.282 | 2.744 | - |
| Articles: | 0 | 0 | |
| Description: Integrate and test additional USW-DSS tools/capabilities including Common Tactical Picture, Platform Data Fusion Integration, Cross-Platform Data Fusion, Automated Asset Allocation, Asset/Threat State Information, Vulnerability Analysis enhancement, ASW Track Management, Automated Re-planning, Engagement Target Pairing and improved Theater USW capabilities and incorporate visualization/display service. | | | |
| FY 2010 Accomplishments: Integrated USW-DSS with ISNS architecture as one of the first early-adopters. Incorporated Line of Bearing. Reduced clutter by 10 percent using track filtering. Incorporated AN/SPS-74(V)1 Periscope Detection tracks and AN/SQQ-34 Carrier Tactical Support Center (CV-TSC) sensor tracks into USW-DSS. | | | |
| FY 2011 Plans: Provide first Fleet Active Interference Tactical Decision Aids (TDAs). Provide ASW Search and Attack templates to the Sea Combat Commander. Incorporate AN/SQQ-89 sensor tracks into USW-DSS. Reduce total bandwidth requirements for USW-DSS | | | |

UNCLASSIFIED

| | | | | |
|---|--|---|----------------|----------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604518N: <i>Combat Information Center</i> <i>Conv</i> | PROJECT 3094: <i>USW Decision Support</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| data transmission and provide for uni-directional interface to Tactical Digital Information Link (Link 11/16). Complete USW-DSS Build 2 Release 3 (R3). | | | | |
| Title: USW-DSS Build 3 Development / Integration / Test | | | | |
| Articles: | | 1.775 0 | 1.825 0 | 3.075 0 |
| Description: Integrate battlespace management tools/capabilities into USW-DSS. Build 3 source code will leverage from Build 2, including Enhanced Common Tactical Picture and Cross Platform Data Fusion. Begin incorporation of High Value Unit (HVU) protection planning tools for transit and sustained operating area conditions. Improve combat system integration to further reduce detect-to-engage timeline through AN/SQQ-89 ACB-11, CV-TSC AN/SQQ-34 Increment 2 and Surveillance Towed Array Sensor System (SURTASS) coordination. Define scaled Maritime Patrol and Reconnaissance Aircraft (MPRA) variant and support delivery to PMA 290 for P-8 initial deliveries. Integrate Office of Naval Research (ONR) products and SBIR phase II development for further technology improvement. Define integration approach and execution with Submarine community. | | | | |
| FY 2010 Accomplishments: Submitted Capability Production Document (CPD), System Engineering Plan, System Requirement Specifications and System Architecture and Requirements Allocation Description (SARAD) to provide requirements for Build 3. Conducted System Requirements Review and allocation baseline review for initial design. Conducted Preliminary Design Review for Build 3 4Q10. | | | | |
| FY 2011 Plans: Conduct system architecture and requirements analysis including task analysis for Critical Design Review (CDR); produce other acquisition design documents prior to CDR such as the Software Requirements Verification Matrix (SRVM) and Interface Requirements Specification; conduct build verification test, performance verification test, and software test plan. The draft gold disk will also be produced as a software baseline for Build 3. | | | | |
| FY 2012 Plans: Continue development and integration of USW-DSS increment ACB15/Build 3 through the Peer Review Process (PRP). Begin implementation of component design and assessment and assess the maturity of the software improvement and technology upgrade during the step-wise PRP and eliminate/delay immature capability improvements. Begin implementation of the design. Produce final draft of all acquisition documents initiated in FY11. | | | | |
| Title: ISNS/CANES Integration | | | | |
| Articles: | | 0.700 0 | 0.475 0 | 0.325 0 |
| FY 2010 Accomplishments: | | | | |

UNCLASSIFIED

| | | |
|---|--|---|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604518N: <i>Combat Information Center Conv</i> | PROJECT 3094: <i>USW Decision Support</i> |

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|---|----------------|----------------|----------------|
| Continued the required integration and testing for migration to the Integrated Shipboard Network System (ISNS) and begin planning for the migration to the Consolidated Automated Networks and Enterprise Services (CANES) for surface platforms. FY 2011 Plans: Continue migration to the Integrated Shipboard Network System (ISNS) and initiate integration and testing efforts for the migration to the Consolidated Automated Networks and Enterprise Services (CANES). FY 2012 Plans: Continue migration to the Integrated Shipboard Network System (ISNS) and continue integration and testing efforts for the migration to the Consolidated Automated Networks and Enterprise Services (CANES). | | | |
| Accomplishments/Planned Programs Subtotals | 12.757 | 5.044 | 3.400 |

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> <u>Base</u> | <u>FY 2012</u> <u>OCO</u> | <u>FY 2012</u> <u>Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
|--|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| • OPN/2176: <i>USW Support Equipment (Related Portion)</i> | 2.697 | 2.613 | 3.429 | 0.000 | 3.429 | 3.238 | 3.239 | 3.277 | 3.327 | Continuing | Continuing |

D. Acquisition Strategy

-Hardware/Software integration contractor funded through SBIR Phase III contract.

E. Performance Metrics

- Reduce the Detect-to-Engage timeline, false contact rate, and false alarm rate by employing a service-orientated architecture between the sensors and weapons.
- ASW Search Plan/Mission Planning reduced from 6 hours to 1 hour between USW-DSS Build 1 and Build 2.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604518N: <i>Combat Information Center</i> Conv | PROJECT 3094: <i>USW Decision Support</i> |
|---|---|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Primary H/W & S/W Development | WR | NAWC/Pax River:MD | 0.300 | - | | - | | - | | - | 0.000 | 0.300 | |
| Primary H/W & S/W Development | WR | NSWC/Dahlgren:VA | 0.501 | - | | - | | - | | - | 0.000 | 0.501 | |
| Primary H/W & S/W Development | WR | NSWC/Carderock:MD | 2.562 | 0.734 | Nov 2010 | 0.675 | Oct 2011 | - | | 0.675 | Continuing | Continuing | Continuing |
| Primary H/W & S/W Development | WR | NUWC/Keyport:WA | 2.837 | 0.125 | Jan 2011 | 0.275 | Oct 2011 | - | | 0.275 | Continuing | Continuing | Continuing |
| Primary H/W & S/W Development | WR | NUWC/Newport:RI | 9.035 | 0.812 | Jan 2011 | 0.583 | Oct 2011 | - | | 0.583 | Continuing | Continuing | Continuing |
| Primary H/W & S/W Development | WR | SSC/San Diego:CA | 0.850 | - | | - | | - | | - | 0.000 | 0.850 | |
| Primary H/W & S/W Development | WR | VAR1:VAR* | 0.839 | 0.055 | Nov 2010 | - | | - | | - | 0.000 | 0.894 | |
| Primary H/W & S/W Development | C/CPFF | Adaptive Methods:VA | 5.098 | 1.165 | Nov 2010 | 0.575 | Dec 2011 | - | | 0.575 | Continuing | Continuing | Continuing |
| Primary H/W & S/W Development | C/CPFF | JHU/APL:MD | 2.425 | 0.300 | Feb 2011 | 0.200 | Dec 2011 | - | | 0.200 | Continuing | Continuing | Continuing |
| Primary H/W & S/W Development | C/CPFF | Progeny:VA | 8.303 | 1.009 | Nov 2010 | 0.350 | Dec 2011 | - | | 0.350 | Continuing | Continuing | Continuing |
| Primary H/W & S/W Development | C/CPFF | VAR2:VAR* | 4.603 | 0.406 | Feb 2011 | 0.282 | Dec 2011 | - | | 0.282 | Continuing | Continuing | Continuing |
| Subtotal | | | 37.353 | 4.606 | | 2.940 | | - | | 2.940 | | | |

Remarks

*Consists of multiple performing activities with funding for each not greater than \$1M per year.

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| At-Sea Test and Evaluation | WR | VAR:VAR | 1.200 | 0.300 | Feb 2011 | 0.350 | Oct 2011 | - | | 0.350 | Continuing | Continuing | Continuing |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604518N: <i>Combat Information Center Conv</i> | PROJECT 3094: <i>USW Decision Support</i> |
|---|--|---|

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Subtotal | | | 1.200 | 0.300 | | 0.350 | | - | | 0.350 | | | |

Remarks
*Consists of multiple performing activities with funding for each not greater than \$1 million per year.

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Program Management Support | C/CPAF | BAE Systems:MD | 1.680 | 0.138 | Jan 2011 | 0.110 | Dec 2011 | - | | 0.110 | Continuing | Continuing | Continuing |
| Subtotal | | | 1.680 | 0.138 | | 0.110 | | - | | 0.110 | | | |

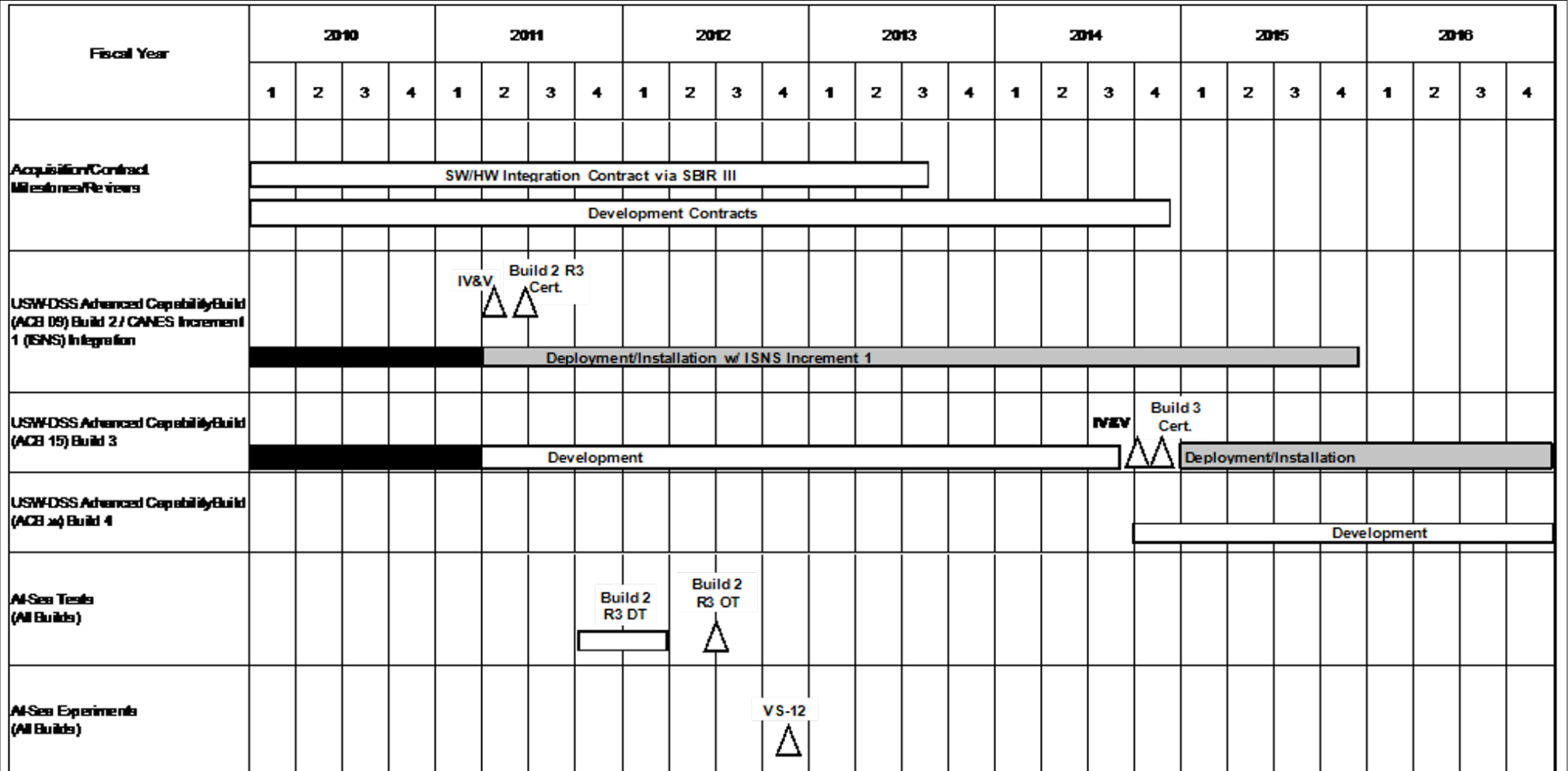
| | | | Total Prior Years Cost | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|--|--|-------------------------------|----------------|--|---------------------|--|--------------------|--|----------------------|-------------------------|-------------------|---------------------------------|
| Project Cost Totals | | | 40.233 | 5.044 | | 3.400 | | - | | 3.400 | | | |

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy DATE: February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: Development & Demonstration (SDD) | R-1 ITEM NOMENCLATURE PE 0604518N: Combat Information Center Conv | PROJECT 3094: USW Decision Support |
|---|--|--|



UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604518N: <i>Combat Information Center</i> Conv | PROJECT 3094: <i>USW Decision Support</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 3094 | | | | |
| USW-DSS Build 2 Deployment with ISNS Increment 1 | 1 | 2010 | 4 | 2015 |
| USW-DSS Build 2 (Release 3) Independent Verification/Validation | 2 | 2011 | 2 | 2011 |
| USW-DSS Build 2 (Release 3) Certification | 2 | 2011 | 3 | 2011 |
| USW-DSS Build 3 Development | 1 | 2010 | 3 | 2014 |
| USW-DSS Build 3 Independent Verification/Validation | 3 | 2014 | 4 | 2014 |
| USW-DSS Build 3 Certification | 4 | 2014 | 4 | 2014 |
| USW-DSS Build 3 Deployment | 1 | 2015 | 4 | 2016 |
| At-Sea Developmental Test | 4 | 2011 | 1 | 2012 |
| At-Sea Operational Test | 2 | 2012 | 3 | 2012 |
| At-Sea Experiment - Valiant Shield (VS-12) | 4 | 2012 | 4 | 2012 |

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604558N: <i>New Design SSN</i> |
|---|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---|---------|---------|-----------------|----------------|------------------|---------|---------|---------|---------|---------------------|------------|
| Total Program Element | 177.030 | 155.489 | 97.235 | - | 97.235 | 91.818 | 119.296 | 150.466 | 153.239 | Continuing | Continuing |
| 1947: <i>New Design SSN HM&E</i> | 112.086 | 113.711 | 60.328 | - | 60.328 | 54.441 | 81.194 | 111.443 | 113.476 | Continuing | Continuing |
| 1950: <i>New Design SSN Combat Sys Dev</i> | 30.453 | 36.318 | 33.917 | - | 33.917 | 34.645 | 35.305 | 36.166 | 36.856 | Continuing | Continuing |
| 3062: <i>Submarine Multi-Mission Team Trainer</i> | 4.217 | 5.460 | 2.990 | - | 2.990 | 2.732 | 2.797 | 2.857 | 2.907 | Continuing | Continuing |
| 9999: <i>Congressional Adds</i> | 30.274 | - | - | - | - | - | - | - | - | 0.000 | 30.274 |

A. Mission Description and Budget Item Justification

The U.S. Navy must maintain a submarine fleet that is of sufficient capability and numbers to defend American interests. The VIRGINIA Class Submarine, formerly the New Attack Submarine (New SSN), is being designed to fulfill this need. It will counter the potential threats of the next century in a multi-mission capable submarine that has the ability to provide covert, sustained combat presence in denied waters. The primary goal of the program is to develop an affordable yet capable submarine by evaluating a broad range of system and technology alternatives, and pursuing cost reduction, producibility improvement, and technical risk management. This Program Element (PE) provides the technology, prototype components, and systems engineering needed to design and construct the VIRGINIA Class Submarine and build its Command, Control, Communications, and Intelligence (C3I) System. This PE directly supports the following VIRGINIA Class Submarine missions: (1) covert strike warfare; (2) anti-submarine warfare; (3) covert intelligence collection/surveillance, indication and warning, and electronic warfare; (4) anti-surface ship warfare; (5) special warfare; (6) mine warfare; and (7) battle group support.

Project 3062: The Submarine Multi-Mission Team Trainer (SMMTT) funded in this RDT&E line provides the architectural foundation to replace all MIL Standard hardware with commercial emulation hardware, and rehost existing proprietary based software into COTS software systems, therefore enabling platform independence and wide area network capability. The use of open architecture trainer systems allows for the continuous growth of functional flexibility, ultimately leading to employment training conducted for any submarine combat system.

Project 9999: FY10 Congressional Plus-Ups include; Advanced Manufacturing for Submarine Bow Domes and Rubber Boots, Mold In Place Coating Development for Submarine Fleet, Common Command Control System Module, Submarine Automated Test and Retest (ATRT), and Small Business Technology Insertion.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604558N: <i>New Design SSN</i> |
|---|--|

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 184.338 | 155.489 | 151.536 | - | 151.536 |
| Current President's Budget | 177.030 | 155.489 | 97.235 | - | 97.235 |
| Total Adjustments | -7.308 | - | -54.301 | - | -54.301 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | -0.800 | - | | | |
| • SBIR/STTR Transfer | -5.349 | - | | | |
| • Program Adjustments | - | - | -46.260 | - | -46.260 |
| • Section 219 Reprogramming | -1.136 | - | - | - | - |
| • Rate/Misc Adjustments | - | - | -8.041 | - | -8.041 |
| • Congressional General Reductions Adjustments | -0.023 | - | - | - | - |

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 9999: Congressional Adds

- Congressional Add: *Advanced Manufacturing for Sumbarine Bow Domes and Rubber Boots*
- Congressional Add: *Common Command and Control System Module*
- Congressional Add: *Mold in Place Coating Development for the Submarine Fleet*
- Congressional Add: *SMALL BUSINESS TECHNOLOGY INSERTION*
- Congressional Add: *Submarine Automated Test and Re-Test (ATRT)*

Congressional Add Subtotals for Project: 9999

Congressional Add Totals for all Projects

| | FY 2010 | FY 2011 |
|---|----------------|----------------|
| | 1.593 | - |
| | 4.780 | - |
| | 1.992 | - |
| | 19.917 | - |
| | 1.992 | - |
| Congressional Add Subtotals for Project: 9999 | 30.274 | - |
| Congressional Add Totals for all Projects | 30.274 | - |

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604558N: <i>New Design SSN</i> | PROJECT 1947: <i>New Design SSN HM&E</i> |
|---|--|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--------------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 1947: <i>New Design SSN HM&E</i> | 112.086 | 113.711 | 60.328 | - | 60.328 | 54.441 | 81.194 | 111.443 | 113.476 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

This project encompasses all the ship system development efforts for the VIRGINIA Class Submarine and the Technology Insertion Program for reducing cost and upgrading performance of future hulls by virtue of improvements in ship and combat systems. Technology developments, training, and logistics for developmental items, and VIRGINIA Class test & evaluation are included. This project is essential for pursuit of high priority Reduced Total Ownership Cost (RTOC) initiatives while achieving balanced platform mission capability and flexibility. The thrust of these efforts will be to develop and apply multiple advanced system technologies which are integrated into the design of the VIRGINIA Class Submarine. Technologies developed in this program will, as a rule, be applicable to the Ohio Replacement Program (ORP). New technologies are being transitioned from industry and government research and development programs where doing so offers substantial performance improvement and/or affordability payoffs. Transition opportunities include those from the Defense Advanced Research Projects Agency (DARPA) Sensors & Payloads program. In the future, products from the DARPA TANGO/BRAVO Submarine technology program may transition to prototyping and/or applicability on VIRGINIA hulls.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| Title: New Design SSN HM&E | 102.529 | 103.061 | 54.087 |
| Articles: | 0 | 0 | 0 |
| Description: This project encompasses all the ship system development efforts for the VIRGINIA Class Submarine and the Technology Insertion Program for reducing cost and upgrading performance of future hulls by virtue of improvements in ship and combat systems. Technology developments, training, and logistics for developmental items, and VIRGINIA Class test & evaluation are included. This project is essential for pursuit of high priority Reduced Total Ownership Cost (RTOC) initiatives while achieving balanced platform mission capability and flexibility. The thrust of these efforts will be to develop and apply multiple advanced system technologies which are integrated into the design of the VIRGINIA Class Submarine. Technologies developed in this program will, as a rule, be applicable to the Ohio Replacement Program (ORP). New technologies are being transitioned from industry and government research and development programs where doing so offers substantial performance improvement and/or affordability payoffs. Transition opportunities include those from the Defense Advanced Research Projects Agency (DARPA) Sensors & Payloads program. In the future, products from the DARPA TANGO/BRAVO Submarine technology program may transition to prototyping and/or applicability on VIRGINIA hulls. | | | |
| FY 2010 Accomplishments: Continued block upgrades of Ship Control Algorithms and software. Continued developments responding to SSN774 OPEVAL and TECHEVAL findings. Continued software development for Advanced Electromagnetic Silencing capability. Continued development, demonstration, and design implementation of multiple Block III Cost Reduction technologies including, for example, | | | |

UNCLASSIFIED

| | | | | |
|--|--|--|------------------------|-----------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604558N: <i>New Design SSN</i> | PROJECT 1947: <i>New Design SSN HM&E</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| <p>Large Area Bow Array, VIRGINIA Payload Tubes, reverse osmosis unit, low cost sound isolation coupling, and Integrated Low Pressure Electrolyzer and transition of Office of Naval Research Manufacturing Technology Program (MANTECH) process developments. Developed detailed plan for Block IV Reduced Total Ownership Costs (RTOC) initiatives.</p> <p>FY 2011 Plans: Continue block upgrades of Ship Control Algorithms and software. Continue responding to SSN774 OPEVAL and TECHEVAL findings and prepare for FOT&E events. Continue software development development for Advanced Electromagnetic Silencing capability. Acquire initial at-sea data. Complete prototype development testing for VIRGINIA Payload Tube and Large Aperture Bow Array. Continue design and development of Block III Cost Reduction components and technologies including, for example, Large Area Bow Array, payload tubes, hatches, reverse osmosis units, low cost sound isolation coupling, and Integrated Low Pressure Electrolyzer. Continue transition of products from the Office of Naval Research Manufacturing Technology Program (MANTECH). Continue development of concepts and technologies for Block IV Reduced Total Ownership Cost (RTOC). Address emergent reliability issues associated with HM&E components.</p> <p>FY 2012 Plans: Continue block upgrades of Ship Control Algorithms and software. Continue responding to SSN774 OPEVAL and TECHEVAL findings and prepare for FOT&E events. Continue software development development for Advanced Electromagnetic Silencing capability. Complete design and development of Block III Cost Reduction components and technologies including, for example, Large Area Bow Array, payload tubes, hatches, reverse osmosis units, low cost sound isolation coupling, and Integrated Low Pressure Electrolyzer. Continue transition of products from the Office of Naval Research Manufacturing Technology Program (MANTECH). Continue development of concepts and technologies for Block IV Reduced Total Ownership Cost (RTOC). Address emergent reliability issues associated with HM&E components. Initiate Obsolescence Redesign for Block IV.</p> | | | | |
| <p>Title: TEST AND EVALUATION</p> <p>Description: This project encompasses all the ship system development efforts for the VIRGINIA Class Submarine and the Technology Insertion Program for reducing cost and upgrading performance of future hulls by virtue of improvements in ship and combat systems. Technology developments, training, and logistics for developmental items, and VIRGINIA Class test & evaluation are included. This project is essential for pursuit of high priority Reduced Total Ownership Cost (RTOC) initiatives while achieving balanced platform mission capability and flexibility. The thrust of these efforts will be to develop and apply multiple advanced system technologies which are integrated into the design of the VIRGINIA Class Submarine. Technologies developed in this program will, as a rule, be applicable to the Ohio Replacement Program (ORP). New technologies are being transitioned from industry and government research and development programs where doing so offers substantial performance improvement and/or affordability payoffs. Transition opportunities include those from the Defense Advanced Research Projects Agency (DARPA)</p> | | <p>9.557</p> <p>Articles: 0</p> | <p>10.650</p> <p>0</p> | <p>6.241</p> <p>0</p> |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604558N: <i>New Design SSN</i> | PROJECT 1947: <i>New Design SSN HM&E</i> |
|---|--|--|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|--|---------|---------|---------|
| <p>Sensors & Payloads program. In the future, products from the DARPA TANGO/BRAVO Submarine technology program may transition to prototyping and/or applicability on VIRGINIA hulls.</p> <p><i>FY 2010 Accomplishments:</i> Conducted Arctic Cold Water Assessment developmental testing, analysis and reporting. Continued development of FOT&E requirements and testing plans for Block III efforts.</p> <p><i>FY 2011 Plans:</i> Complete TI-08/APB-09 development testing, analysis, and reporting. Conduct TI-08/APB09 operational testing, analysis and reporting. Issue Test and Evaluation Master Plan (TEMP) Rev G. Conduct Arctic FOT&E testing, analysis and reporting. Continue development of FOT&E requirements and testing plans for Block III efforts.</p> <p><i>FY 2012 Plans:</i> Perform Dry Deck Shelter (DDS) developmental and operational testing, analysis and reporting. Continue development of FOT&E and FOT&E requirements and testing plans for Block III efforts.</p> | | | |
| Accomplishments/Planned Programs Subtotals | 112.086 | 113.711 | 60.328 |

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> <u>Base</u> | <u>FY 2012</u> <u>OCO</u> | <u>FY 2012</u> <u>Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
|---|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| • SCN/2013: <i>VA CL</i> | 3,957.406 | 5,132.688 | 4,756.976 | 0.000 | 4,756.976 | 4,858.997 | 6,453.990 | 6,275.879 | 5,284.274 | 16,668.364 | 83,900.007 |
| • O&M,N/0204283N: <i>Sub Ops & Safety</i> | 44.262 | 53.141 | 54.453 | 0.000 | 54.453 | 50.672 | 51.151 | 52.111 | 53.193 | Continuing | Continuing |
| • OPN/0942: <i>VA CL Support Equipment</i> | 98.384 | 132.039 | 100.693 | 0.000 | 100.693 | 126.152 | 66.634 | 107.245 | 42.901 | Continuing | Continuing |

D. Acquisition Strategy

The VIRGINIA Class Submarine Program has implemented Integrated Product and Process Development (IPPD). The traditional distinct phasing of the design process has been replaced with the continuous concurrent engineering IPPD process. The IPPD approach has facilitated a smoother transition from design to manufacturing and has reduced the number of changes typically encountered during construction of the lead and early follow-on ships. In September 1997, Congress passed a law allowing Electric Boat (EB) and Northrop Grumman Newport News (NGNN) to team for production of the first four VIRGINIA Class Submarines. Under the teaming agreement, EB remained the design yard for the VIRGINIA Class Submarine and NGNN became a part of the IPPD process. The Program Office is managing two multi-year contracts the first is for the FY04-08 ships and the second was awarded in December 2008 for the FY09-13 ships.

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604558N: <i>New Design SSN</i> | PROJECT 1947: <i>New Design SSN HM&E</i> |

E. Performance Metrics

Successful completion of Milestone III Review. Successful completion of Final Operational Test and Evaluation (FOT&E) for Technology Insertion (TI)-08 and Block III. Successful implementation of Reduced Total Ownership (RTOC) initiatives

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604558N: <i>New Design SSN</i> | PROJECT 1947: <i>New Design SSN HM&E</i> |
|---|--|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|--|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Component Development | WR | NSWC:Carderock, MD | 563.093 | 14.381 | Mar 2011 | 15.329 | Nov 2011 | - | | 15.329 | 122.009 | 714.812 | |
| Component Development | WR | NUWC:Newport, RI | 100.905 | 4.970 | Mar 2011 | 0.492 | Nov 2011 | - | | 0.492 | 102.879 | 209.246 | |
| Component Development | WR | NRL:Washington, DC | 4.603 | 0.315 | Mar 2011 | 0.250 | Nov 2011 | - | | 0.250 | 0.250 | 5.418 | |
| Component Development | C/CPFF | Electric Boat:Groton, CT | 150.484 | 66.426 | Mar 2011 | 29.662 | Nov 2011 | - | | 29.662 | 520.227 | 766.799 | |
| Component Development | C/CPFF | Electric Boat:Groton, CT | 22.964 | - | | - | | - | | - | 0.000 | 22.964 | |
| Component Development | C/CPFF | Electric Boat:Groton, CT | 22.597 | 11.648 | Mar 2011 | 2.378 | Dec 2011 | - | | 2.378 | 0.727 | 37.350 | |
| Component Development | PO | SUPSHIP:Groton, CT | 51.135 | 2.612 | Mar 2011 | 2.762 | Mar 2012 | - | | 2.762 | 45.233 | 101.742 | |
| Component Development | SS/CPFF | Lockheed Martin:Not Specified | 14.643 | 1.060 | Dec 2010 | 1.640 | Dec 2011 | - | | 1.640 | 0.000 | 17.343 | |
| Component Development | SS/CPFF | Lockheed Martin:Not Specified | 2.070 | - | | - | | - | | - | 0.000 | 2.070 | |
| Component Development | SS/CPFF | Applied Research Laboratory:Penn State University | 21.811 | 0.095 | Mar 2011 | - | | - | | - | 0.000 | 21.906 | |
| Component Development | SS/FP | National Shipbuilding Research Program:Not Specified | 1.900 | 0.554 | Mar 2011 | 0.574 | Mar 2012 | - | | 0.574 | 0.594 | 3.622 | |
| Component Development | Various | Micellaneous:Not Specified | 14.671 | - | | - | | - | | - | 0.000 | 14.671 | |
| Subtotal | | | 970.876 | 102.061 | | 53.087 | | - | | 53.087 | 791.919 | 1,917.943 | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Test and Evaluation - DT&E | WR | NSWC:Carderock, MD | 88.693 | 0.740 | Mar 2011 | 1.204 | Nov 2011 | - | | 1.204 | 41.856 | 132.493 | |
| Test and Evaluation - LFT&E | WR | NSWC:Carderock, MD | - | 0.650 | Mar 2011 | 0.650 | Nov 2011 | - | | 0.650 | 3.765 | 5.065 | |
| Test and Evaluation - DT&E | WR | NSWC:Dahlgren, VA | 0.245 | 0.070 | Mar 2011 | - | | - | | - | 0.000 | 0.315 | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604558N: <i>New Design SSN</i> | PROJECT 1947: <i>New Design SSN HM&E</i> |
|---|--|--|

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Test and Evaluation - DT&E | WR | NUWC:Newport, RI | 97.408 | 4.767 | Mar 2011 | 1.498 | Nov 2011 | - | | 1.498 | 161.704 | 265.377 | |
| Test and Evaluation - OT&E | PO | COMOPTEVFOR:PD | 10.288 | 3.140 | Mar 2011 | 1.389 | Nov 2011 | - | | 1.389 | 51.560 | 66.377 | |
| Test and Evaluation - LFT&E | C/CPFF | Electric Boat:Groton, CT | 0.899 | 0.189 | Mar 2011 | 0.250 | Nov 2011 | - | | 0.250 | 0.200 | 1.538 | |
| Test and Evaluation - DT&E | C/CPAF | SEAPORT D7019:Rockville, MD | 18.417 | 0.490 | Mar 2011 | 0.500 | Nov 2011 | - | | 0.500 | 4.100 | 23.507 | |
| Test and Evaluation - DT&E | C/CPFF | Progeny:Manassas, VA | 2.856 | 0.604 | Mar 2011 | 0.750 | Dec 2011 | - | | 0.750 | 7.750 | 11.960 | |
| Test and Evaluation - DT&E | Various | Micellaneous:Not Specified | 11.842 | - | | - | | - | | - | 0.000 | 11.842 | |
| Subtotal | | | 230.648 | 10.650 | | 6.241 | | - | | 6.241 | 270.935 | 518.474 | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Contractor Engineering Support | C/CPAF | SEAPORT D7019:Rockville, MD | 18.025 | 1.000 | Mar 2011 | 1.000 | Nov 2011 | - | | 1.000 | 7.500 | 27.525 | |
| Travel | PO | Not Specified:Not Specified | 1.919 | - | | - | | - | | - | 0.000 | 1.919 | |
| DAWDF | Various | Not Specified:Not Specified | 0.597 | - | | - | | - | | - | 0.000 | 0.597 | |
| Subtotal | | | 20.541 | 1.000 | | 1.000 | | - | | 1.000 | 7.500 | 30.041 | |

| | Total Prior Years Cost | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|-------------------------------|----------------|---------|---------------------|--------|--------------------|---|----------------------|-------------------------|-------------------|---------------------------------|
| Project Cost Totals | | 1,222.065 | 113.711 | | 60.328 | | - | 60.328 | 1,070.354 | 2,466.458 | |

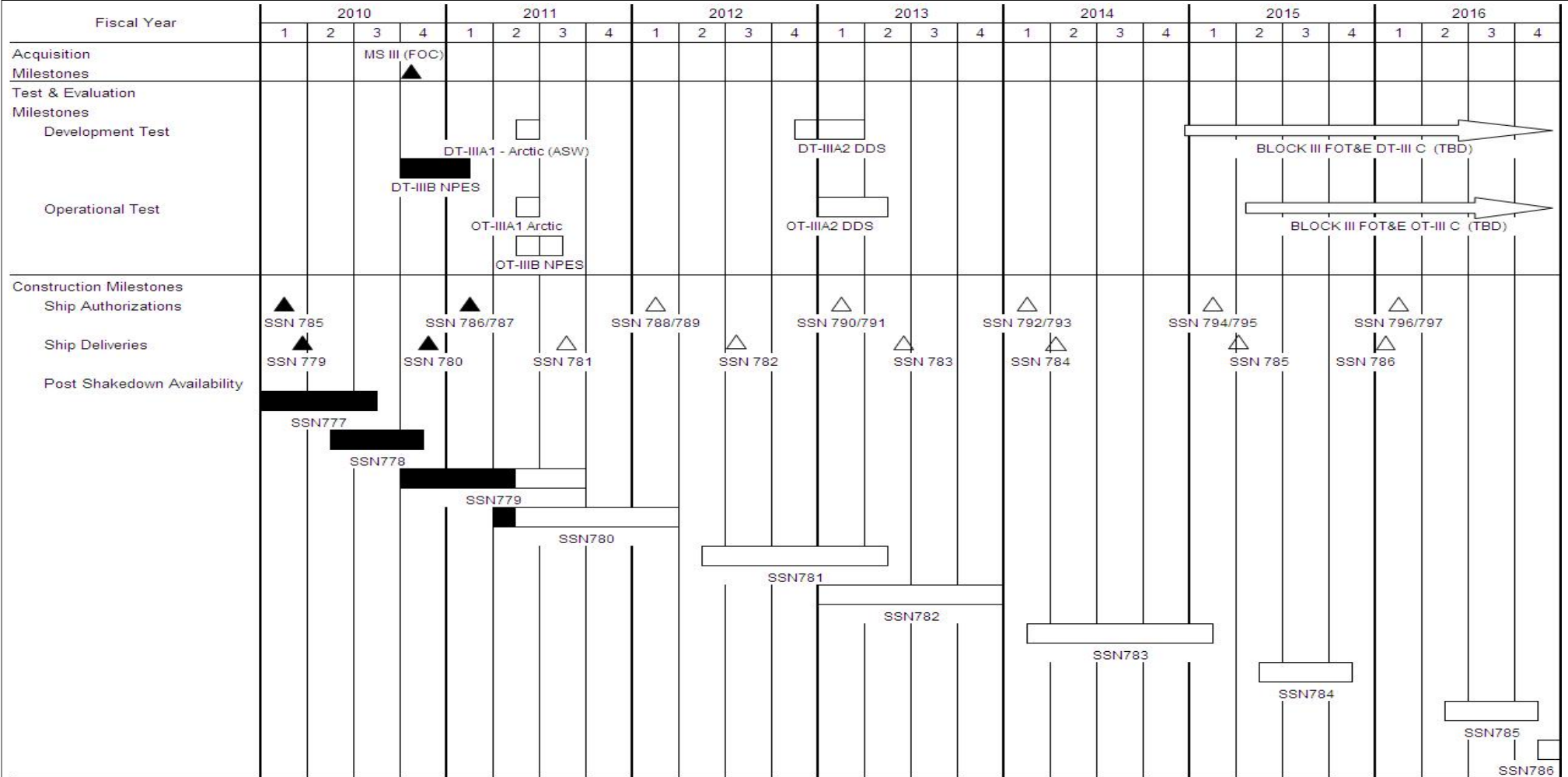
Remarks

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604558N: <i>New Design SSN</i> | PROJECT 1947: <i>New Design SSN HM&E</i> |
|---|--|--|



UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604558N: <i>New Design SSN</i> | PROJECT 1947: <i>New Design SSN HM&E</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 1947 | | | | |
| Ship Authorization (SSN 785) | 1 | 2010 | 1 | 2010 |
| Ship Delivery (SSN 779) | 1 | 2010 | 1 | 2010 |
| Post Shakedown Availability (PSA SSN 777) | 1 | 2010 | 3 | 2010 |
| Post PSA Modernization (SSN 777) | 1 | 2010 | 3 | 2010 |
| Post Shakedown Availability (PSA SSN 778) | 2 | 2010 | 4 | 2010 |
| Milestone III (MSIII) | 4 | 2010 | 4 | 2010 |
| Full Operational Capability (FOC) | 4 | 2010 | 4 | 2010 |
| Ship Delivery (SSN 780) | 4 | 2010 | 4 | 2010 |
| Post Shakedown Availability (PSA SSN 779) | 4 | 2010 | 4 | 2011 |
| Post PSA Modernization (SSN 779) | 4 | 2010 | 4 | 2011 |
| DT-III B (NPES) | 4 | 2010 | 1 | 2011 |
| Ship Authorization (786/787) | 1 | 2011 | 1 | 2011 |
| DT-III A1 (Arctic) | 2 | 2011 | 2 | 2011 |
| OT-III A1 (Arctic) | 2 | 2011 | 2 | 2011 |
| OT-III B (NPES) | 2 | 2011 | 3 | 2011 |
| Post Shakedown Availability (PSA SSN 780) | 2 | 2011 | 2 | 2012 |
| Post PSA Modernization (SSN 780) | 2 | 2011 | 2 | 2012 |
| Ship Delivery (SSN 781) | 3 | 2011 | 3 | 2011 |
| DT-III A2 (DDS) | 4 | 2011 | 2 | 2012 |
| Ship Authorization (788/789) | 1 | 2012 | 1 | 2012 |
| OT-III A2 (DDS) | 1 | 2012 | 2 | 2012 |

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604558N: <i>New Design SSN</i> | PROJECT 1947: <i>New Design SSN HM&E</i> |

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Ship Delivery (SSN 782) | 3 | 2012 | 3 | 2012 |
| Post Shakedown Availability (PSA SSN 781) | 2 | 2012 | 2 | 2013 |
| Post PSA Modernization (SSN 781) | 2 | 2012 | 2 | 2013 |
| Ship Authorization (790/791) | 1 | 2013 | 1 | 2013 |
| Post Shakedown Availability (PSA SSN 782) | 1 | 2013 | 4 | 2013 |
| Post PSA Modernization (SSN 782) | 1 | 2013 | 4 | 2013 |
| Ship Delivery (SSN 783) | 2 | 2013 | 2 | 2013 |
| Ship Authorization (792/793) | 1 | 2014 | 1 | 2014 |
| Post Shakedown Availability (PSA SSN 783) | 1 | 2014 | 1 | 2015 |
| Post PSA Modernization (SSN 783) | 1 | 2014 | 1 | 2015 |
| Ship Delivery (SSN 784) | 2 | 2014 | 2 | 2014 |
| Post Shakedown Availability (PSA SSN 784) | 4 | 2014 | 2 | 2015 |
| Ship Authorization (794/795) | 1 | 2015 | 1 | 2015 |
| Ship Delivery (SSN 785) | 2 | 2015 | 2 | 2015 |
| Post Shakedown Availability (PSA SSN 785) | 4 | 2015 | 2 | 2016 |
| Ship Authorization (796/797) | 1 | 2016 | 1 | 2016 |
| Ship Delivery (SSN 786) | 1 | 2016 | 1 | 2016 |
| Post Shakedown Availability (PSA SSN 786) | 4 | 2016 | 4 | 2016 |

UNCLASSIFIED

| | | | | | | | | | | | |
|---|----------------|----------------|---------------------|--|----------------------|----------------|----------------|--|----------------------------|-------------------------|-------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | | | | | | | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | R-1 ITEM NOMENCLATURE PE 0604558N: <i>New Design SSN</i> | | | | PROJECT 1950: <i>New Design SSN Combat Sys Dev</i> | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| 1950: <i>New Design SSN Combat Sys Dev</i> | 30.453 | 36.318 | 33.917 | - | 33.917 | 34.645 | 35.305 | 36.166 | 36.856 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

This project encompasses the top level systems development, test and integration into the ship of the VIRGINIA Class Submarine C3I System, which includes multiple subsystems. The scope of the system is expanded from Sonar and Combat Control subsystems to include AN/BLQ-10 Electronic Support Measures, Exterior Communications, Submarine Regional Warfare System, Navigation, Total Ship Monitoring, Imaging, Tactical Acoustic Communications, Radar, Interior Communications, Tactical Support Devices, Fiber Optic Cable Subsystem, and Special Purpose Subsystems, such as Battle Force Team Trainer and others. VIRGINIA Class Submarine specific development efforts include requirements definition, software, hardware development, software/hardware test, prototype production, and electronic integration as well as physical integration into the platform.

The VIRGINIA Class Submarine implementation approach is based on Open System, Commercial-off-the-Shelf (COTS) Non-Developmental Items or subsystems. The program leverages on-going subsystems developments or developing new subsystems where needed to satisfy VIRGINIA Class requirements. The recurring cost of VIRGINIA Class Submarine C3I Systems is being reduced to meet the program's affordability goals. Modifications to many subsystems must be developed to: (1) reduce the shipbuilding and construction recurring costs through the use of COTS components; (2) use proven computer technologies to evolve to an Open System design; (3) enhance capabilities to support expanded operational requirements, reduced manning, and reduced shipboard component footprint.

To meet the collective future threat, the submarine force must operate as effectively in littoral regions as it traditionally has in open ocean. Close coordination with surface battle groups and airborne units is essential to mission accomplishment. To meet the VIRGINIA Class Submarine mission, the following capabilities are provided by the VIRGINIA Class Submarine C3I System: (1) passive and active detection of multiple contacts, including early warning threat determination through processing and analysis of sensor data; (2) classification of sensor data for the purpose of identifying contacts; (3) localization (tracking) of contacts through target motion analysis; (4) preset, launch, and control of weapons and countermeasures; (5) improved communication and connectivity with other battle group elements, airborne units, and special operations forces; (6) incorporation of vertical launch system to enhance strike warfare; and (7) more effective covert surveillance through video imaging with onboard digital enhancement capabilities, and improved electronic warfare analysis capabilities.

The F1950 project mission includes an ongoing post VIRGINIA Class TECH/OPEVAL RDT&E effort to continue the development of VIRGINIA Unique Combat System Improvements. The VIRGINIA Class C3I will continue to leverage backfit communities efforts, but even with common systems that the Navy has developed there will continue to be VIRGINIA Unique capability improvements required. The FY09 and out funding identified is for those efforts.

UNCLASSIFIED

| | | | | |
|--|--|--|----------------|----------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604558N: <i>New Design SSN</i> | PROJECT 1950: <i>New Design SSN Combat Sys Dev</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| <p>Title: Sonar Combat Control and Architecture Subsystems</p> <p align="right">Articles:</p> <p>FY 2010 Accomplishments: Continued the development of S/CC/A System Improvements to maintain VIRGINIA Class Commonality to backfit fleet.</p> <p>FY 2011 Plans: Continue the development of S/CC/A System Improvements to maintain VIRGINIA Class Commonality to backfit fleet.</p> <p>FY 2012 Plans: Continue the development of S/CC/A System Improvements to maintain VIRGINIA Class Commonality to backfit fleet.</p> | | 15.723 0 | 19.443 0 | 16.981 0 |
| <p>Title: C3I Systems Engineering</p> <p align="right">Articles:</p> <p>Description: This project encompasses the top level systems development, test and integration into the ship of the VIRGINIA Class Submarine C3I System, which includes multiple subsystems. The scope of the system is expanded from Sonar and Combat Control subsystems to include AN/BLQ-10 Electronic Support Measures, Exterior Communications, Submarine Regional Warfare System, Navigation, Total Ship Monitoring, Imaging, Tactical Acoustic Communications, Radar, Interior Communications, Tactical Support Devices, Fiber Optic Cable Subsystem, and Special Purpose Subsystems, such as Battle Force Team Trainer and others. VIRGINIA Class Submarine specific development efforts include requirements definition, software, hardware development, software/hardware test, prototype production, and electronic integration as well as physical integration into the platform.</p> <p>FY 2010 Accomplishments: Continued the development of system level and other subsystem improvements to maintain VIRGINIA Class commonality to backfit fleet.</p> <p>FY 2011 Plans: Continue the development of system level and other subsystem improvements to maintain VIRGINIA Class commonality to backfit fleet.</p> <p>FY 2012 Plans: Continue the development of system level and other subsystem improvements to maintain VIRGINIA Class commonality to backfit fleet.</p> | | 14.730 0 | 16.875 0 | 16.936 0 |
| Accomplishments/Planned Programs Subtotals | | 30.453 | 36.318 | 33.917 |

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604558N: <i>New Design SSN</i> | PROJECT 1950: <i>New Design SSN Combat Sys Dev</i> |

C. Other Program Funding Summary (\$ in Millions)

| Line Item | FY 2010 | FY 2011 | FY 2012 | | | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To | |
|---|-----------|-----------|-----------|-------|-----------|-----------|-----------|-----------|-----------|------------|------------|
| | | | Base | OCO | Total | | | | | Complete | Total Cost |
| • SCN/2013: <i>VA CL</i> | 3,957.406 | 5,132.688 | 4,756.976 | 0.000 | 4,756.976 | 4,858.997 | 6,453.990 | 6,275.879 | 5,284.274 | 16,668.364 | 83,900.007 |
| • O&M,N/0204283N: <i>Sub Ops & Safety</i> | 44.262 | 53.141 | 54.453 | 0.000 | 54.453 | 50.672 | 51.151 | 52.111 | 53.193 | Continuing | Continuing |
| • OPN/0942: <i>VA CL Support Equipment</i> | 98.384 | 132.039 | 100.693 | 0.000 | 100.693 | 126.152 | 66.634 | 107.245 | 42.901 | Continuing | Continuing |

D. Acquisition Strategy

The VIRGINIA Class Submarine Program has implemented Integrated Product and Process Development (IPPD). The traditional distinct phasing of the design process has been replaced with the continuous concurrent engineering IPPD process. The IPPD approach has facilitated a smoother transition from design to manufacturing and has reduced the number of changes typically encountered during construction of the lead and early follow-on ships. In September 1997, Congress passed a law allowing Electric Boat (EB) and Northrop Grumman Newport News (NGNN) to team for production of the first four VIRGINIA Class Submarines. Under the teaming agreement, EB remained the design yard for the VIRGINIA Class Submarine and NGNN became a part of the IPPD process. The Program Office is managing two multi-year contracts the first is for the FY04-08 ships and the second was awarded in December 2008 for the FY09-13 ships.

E. Performance Metrics

Successful completion of Milestone III Review. Successful completion of Final Operational Test and Evaluation (FOT&E) for Technology Insertion (TI)-08 and Block III. Successful implementation of Reduced Total Ownership Costs (RTOC) initiatives.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604558N: <i>New Design SSN</i> | PROJECT 1950: <i>New Design SSN Combat Sys Dev</i> |
|---|--|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| PTR Corrections | Various | Various:TBD | 30.088 | - | | - | | - | | - | 0.000 | 30.088 | |
| Unique Virginia Class Improvements | Various | Various:TBD | 19.345 | 13.254 | Mar 2011 | 10.360 | Nov 2011 | - | | 10.360 | 112.384 | 155.343 | |
| Advanced Display Sys (AN/UYQ-70) | SS/CPIF | Lockheed Martin:St. Paul, MN | 31.105 | 1.038 | Mar 2011 | 1.059 | Nov 2011 | - | | 1.059 | 9.110 | 42.312 | |
| Photonics | C/CPIF | Kollmorgen:Northampton, MA | 51.293 | 1.500 | May 2011 | 1.530 | May 2012 | - | | 1.530 | 12.880 | 67.203 | |
| Electronic Support Measures | C/FFP | Lockheed Martin:Syracuse, NY | 38.067 | - | | - | | - | | - | 0.000 | 38.067 | |
| Platform Integration | SS/CPFF | Electric Boat:Groton, CT | 44.376 | 1.200 | Nov 2010 | 1.224 | Nov 2011 | - | | 1.224 | 10.367 | 57.167 | |
| Technology Refreshment | Various | Various:TBD | 20.355 | - | | - | | - | | - | 0.000 | 20.355 | |
| Technical Direction Agent | WR | NUWC:Newport, RI | 265.505 | 8.000 | Mar 2011 | 8.160 | Jan 2012 | - | | 8.160 | 69.114 | 350.779 | |
| Technology Refreshment/Info. Assurance | C/CPFF | Progeny Systems:Manassas, VA | 30.186 | 1.500 | Mar 2011 | 1.530 | Nov 2011 | - | | 1.530 | 12.880 | 46.096 | |
| Systems Engineering | WR | NSWC:Carderock, MD | 8.643 | 0.800 | Mar 2011 | 0.816 | Nov 2011 | - | | 0.816 | 6.912 | 17.171 | |
| Systems Engineering | WR | SSC:Charleston, SC | 5.546 | 0.500 | Mar 2011 | 0.510 | Nov 2011 | - | | 0.510 | 4.399 | 10.955 | |
| Systems Engineering | WR | NUWC:Keyport, WA | 10.253 | 0.225 | Nov 2010 | 0.230 | Nov 2011 | - | | 0.230 | 1.885 | 12.593 | |
| Miscellaneous | Various | Various:TBD | 120.707 | 5.801 | Mar 2011 | 5.848 | Nov 2011 | - | | 5.848 | 47.438 | 179.794 | |
| Subtotal | | | 675.469 | 33.818 | | 31.267 | | - | | 31.267 | 287.369 | 1,027.923 | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Various | Various | Various:TBD | 6.212 | - | | - | | - | | - | 0.000 | 6.212 | |
| Subtotal | | | 6.212 | - | | - | | - | | - | 0.000 | 6.212 | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604558N: <i>New Design SSN</i> | PROJECT 1950: <i>New Design SSN Combat Sys Dev</i> |
|---|--|--|

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|--------------------------------------|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Contractor Support Services/ETS | C/CPAF | EG&G:Rockville, MD | 19.271 | 2.500 | Mar 2011 | 2.650 | Dec 2011 | - | | 2.650 | 24.504 | 48.925 | |
| DAWDF | Various | Various:Various | 0.195 | - | | - | | - | | - | 0.000 | 0.195 | |
| | | Subtotal | 19.466 | 2.500 | | 2.650 | | - | | 2.650 | 24.504 | 49.120 | |
| | | | Total Prior Years Cost | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
| | | | 701.147 | 36.318 | | 33.917 | | - | | 33.917 | 311.873 | 1,083.255 | |
| Project Cost Totals | | | 701.147 | 36.318 | | 33.917 | | - | | 33.917 | 311.873 | 1,083.255 | |

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

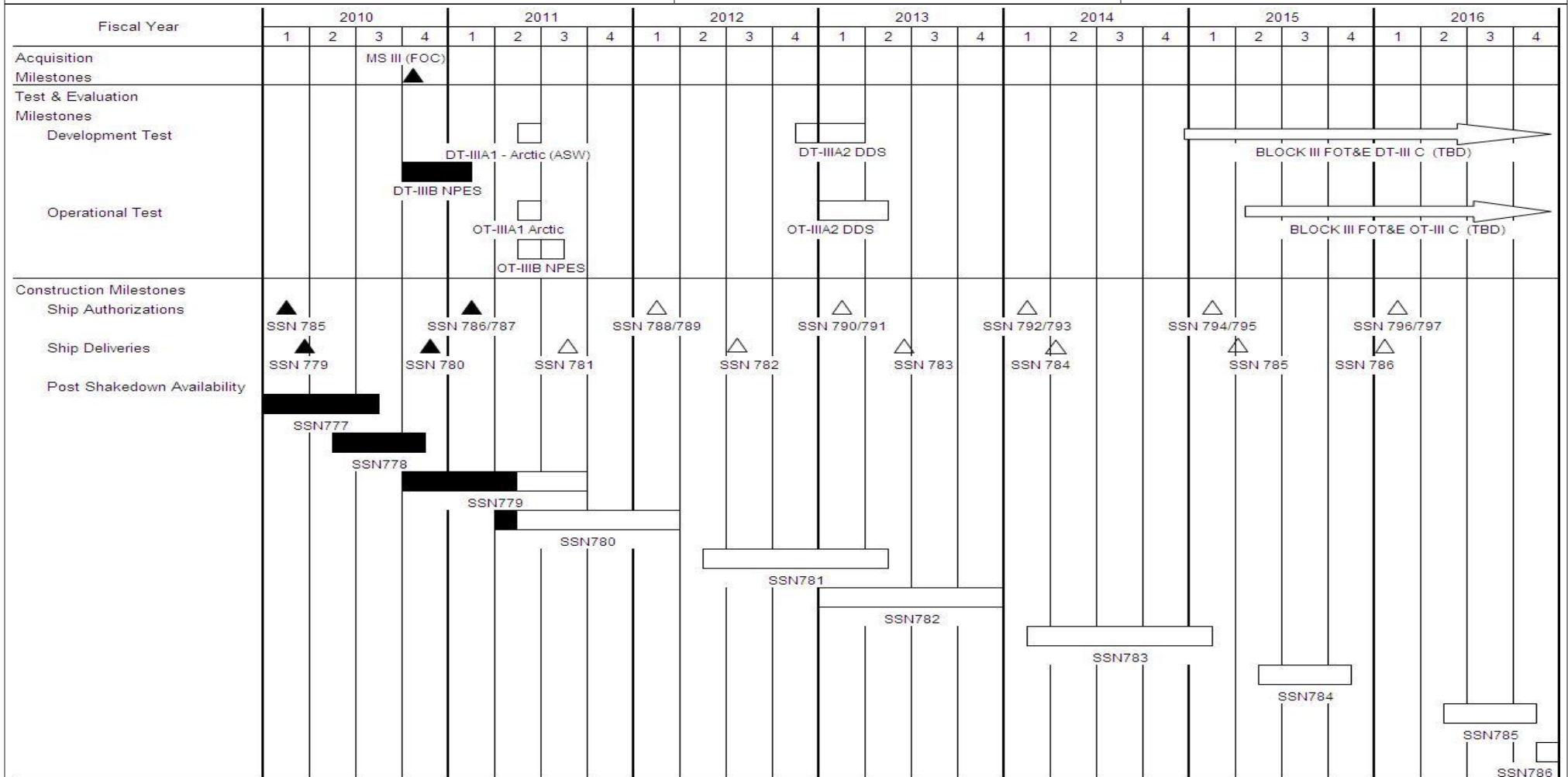
1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604558N: *New Design SSN*

PROJECT

1950: *New Design SSN Combat Sys Dev*



UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604558N: <i>New Design SSN</i> | PROJECT 1950: <i>New Design SSN Combat Sys Dev</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 1950 | | | | |
| Ship Authorization (SSN 785) | 1 | 2010 | 1 | 2010 |
| Ship Delivery (779) | 1 | 2010 | 1 | 2010 |
| Post Shakedown Availability (PSA SSN 777) | 1 | 2010 | 3 | 2010 |
| Post PSA Modernization (SSN 777) | 1 | 2010 | 3 | 2010 |
| Post Shakedown Availability (PSA SSN 778) | 2 | 2010 | 4 | 2010 |
| Milestone III (MSIII) | 4 | 2010 | 4 | 2010 |
| Full Operational Capability (FOC) | 4 | 2010 | 4 | 2010 |
| Ship Delivery (SSN 780) | 4 | 2010 | 4 | 2010 |
| Post Shakedown Availability (PSA SSN 779) | 4 | 2010 | 4 | 2011 |
| Post PSA Modernization (SSN 779) | 4 | 2010 | 4 | 2011 |
| DT-III B (NPES) | 4 | 2010 | 1 | 2011 |
| Ship Authorization (SSN 786/787) | 1 | 2011 | 1 | 2011 |
| DT-III A1 (Arctic) | 2 | 2011 | 2 | 2011 |
| OT-III A1 (Arctic) | 2 | 2011 | 2 | 2011 |
| OT-III B (NPES) | 2 | 2011 | 3 | 2011 |
| Post Shakedown Availability (PSA SSN 780) | 2 | 2011 | 2 | 2012 |
| Post PSA Modernization (SSN 780) | 2 | 2011 | 2 | 2012 |
| Ship Delivery (SSN 781) | 3 | 2011 | 3 | 2011 |
| DT-III A2 (DDS) | 4 | 2011 | 2 | 2012 |
| Ship Authorization (SSN 788/789) | 1 | 2012 | 1 | 2012 |
| OT-III A2 (DDS) | 1 | 2013 | 2 | 2013 |

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604558N: <i>New Design SSN</i> | PROJECT 1950: <i>New Design SSN Combat Sys Dev</i> |

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Ship Delivery (SSN 782) | 3 | 2012 | 3 | 2012 |
| Post Shakedown Availability (PSA SSN 781) | 2 | 2012 | 2 | 2013 |
| Post PSA Modernization (SSN 781) | 2 | 2012 | 2 | 2013 |
| Ship Authorization (SSN 790/791) | 1 | 2013 | 1 | 2013 |
| Post Shakedown Availability (PSA SSN 782) | 1 | 2013 | 4 | 2013 |
| Post PSA Modernization (SSN 782) | 1 | 2013 | 4 | 2013 |
| Ship Delivery (SSN 783) | 2 | 2013 | 2 | 2013 |
| Ship Authorization (SSN 792/793) | 1 | 2014 | 1 | 2014 |
| Post Shakedown Availability (PSA SSN 783) | 1 | 2014 | 1 | 2015 |
| Post PSA Modernization (SSN 783) | 1 | 2014 | 1 | 2015 |
| Ship Delivery (SSN 784) | 2 | 2014 | 2 | 2014 |
| Post Shakedown Availability (PSA SSN 784) | 4 | 2014 | 2 | 2015 |
| Ship Authorization (SSN 794/795) | 1 | 2015 | 1 | 2015 |
| Ship Delivery (SSN 785) | 2 | 2015 | 2 | 2015 |
| Post Shakedown Availability (PSA SSN 785) | 4 | 2015 | 2 | 2016 |
| Ship Authorization (SSN 796/797) | 1 | 2016 | 1 | 2016 |
| Ship Delivery (SSN 786) | 1 | 2016 | 1 | 2016 |
| Post Shakedown Availability (PSA SSN 786) | 4 | 2016 | 4 | 2016 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604558N: <i>New Design SSN</i> | PROJECT 3062: <i>Submarine Multi-Mission Team Trainer</i> |
|---|--|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 3062: <i>Submarine Multi-Mission Team Trainer</i> | 4.217 | 5.460 | 2.990 | - | 2.990 | 2.732 | 2.797 | 2.857 | 2.907 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

To achieve desired submarine force readiness levels, it is necessary to construct highly sophisticated shore based Combat System Team Trainers capable of training personnel in all aspects of submarine approach, attack and surveillance operations in a controlled, simulated environment. The Combat Control System (CCS) MK1, CCS MK2, and AN/BYG-1, along with sonar systems AN/BSY-1, AN/BQQ-5, and AN/BQQ-10 are installed on SSN and SSGN Class submarines. These tactical systems are planned for future upgrades with the next hardware and software revisions which will provide enhanced war fighter capabilities. The Tactical Acoustic Rapid COTS (commercial-off-the-shelf) Insertion (ARCI) Phased upgrades are also being installed with future revisions. The Advanced Processing Builds (APB) and Technical Insertion (TI) sensors, which feed technology insertion into the CCS/Acoustic development, directly impact the trainers.

The Submarine Multi-Mission Team Trainer (SMMTT) supports operator, employment, strike, and Battle Group training for enlisted and officer pipelines. The SMMTT provides operators and combat teams the opportunity to train ashore, prior to, and between deployments. The shore based training provides a means of maintaining team proficiency in stand alone or in combined team mode prior to ship deployment.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| Title: Submarine Multi-Mission Team Trainer | 4.217 | 5.460 | 2.990 |
| Articles: | 0 | 0 | 0 |
| Description: To achieve desired submarine force readiness levels, it is necessary to construct highly sophisticated shore based Combat System Team Trainers capable of training personnel in all aspects of submarine approach, attack and surveillance operations in a controlled, simulated environment. | | | |
| FY 2010 Accomplishments: FY10 Develops implementation of latest Advanced Processor Build (APB), Technical Insertion (TI) and associated training displays. This effort also includes new sensor developments and simulation to match advancements in tactical systems supported by SMMTT. | | | |
| FY 2011 Plans: | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604558N: <i>New Design SSN</i> | PROJECT 3062: <i>Submarine Multi-Mission Team Trainer</i> |
|---|--|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| FY11 Develops implementation of latest Advanced Processor Build (APB), Technical Insertion (TI) and associated training displays. This effort also includes new sensor developments and simulation to match advancements in tactical systems supported by SMMTT. <i>FY 2012 Plans:</i> FY12 Develops implementation of latest Advanced Processor Build (APB), Technical Insertion (TI) and associated training displays. | | | |
| Accomplishments/Planned Programs Subtotals | 4.217 | 5.460 | 2.990 |

C. Other Program Funding Summary (\$ in Millions)

| Line Item | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---|---------|---------|-----------------|----------------|------------------|---------|---------|---------|---------|---------------------|------------|
| • OPN/566100: <i>Submarine Training Device Mods</i> | 17.312 | 26.603 | 30.086 | 0.000 | 30.086 | 17.109 | 20.732 | 17.349 | 17.818 | Continuing | Continuing |

D. Acquisition Strategy

The SMMTT program software development is accounted for in this RDT&E line. All production kits are procured in OPN PE 0804731N BLI 566100, cost code TD009.

E. Performance Metrics

Within 90 days of introduction to the Fleet, this RDTE project shall develop required changes to the Control's & Display's Documentation and Interface Description Language (IDL) Interfaces for the initial development for new sensors that are required to simulate/stimulate that TI/APB for the AN/BQQ-5 and AN/BYG-1 in the Submarine Multi-Mission Team Trainer.

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604558N: *New Design SSN*

PROJECT

3062: *Submarine Multi-Mission Team Trainer*

| Fiscal Year | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | 2014 | | | | 2015 | | | | 2016 | | | |
|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Interface Design Updates | | | ▲ | | | | △ | | | | △ | | | | △ | | | | △ | | | | △ | | | | △ | |
| Software Development Updates (SIM/STIM) | | | | △ | | | | △ | | | △ | | | | △ | | | | △ | | | | △ | | | | △ | |
| Software Builds | | | | △ | | | | △ | | | △ | | | | △ | | | | △ | | | | △ | | | | △ | |
| APB Upgrades | ▲ | | | | | △ | | | | △ | | | | △ | | | | △ | | | | △ | | | | △ | | |
| SSGN 726 Development | | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SSGN Build | | | | | | △ | △ | | | | | | | | | | | | | | | | | | | | | |
| H/W Tech Insertion Additions/Updates | | | | | | △ | | | | | | | | | | | | | | | | △ | | | | | | |
| SSN-21 Software Testing | | | | | | | | | | | | | | △ | | | | | | | | | | | | | | |
| SSN-21 EDM Delivery | | | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | |
| TI-0x New Sensor Simulation Development | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TI-0x New Sensor Simulation EDM updates | ▲ | | | ▲ | | △ | | △ | | | | | | △ | | △ | | | | | | | | | | | | |

Page 1

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604558N: *New Design SSN*

PROJECT

3062: *Submarine Multi-Mission Team Trainer*

| Fiscal Year | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | 2014 | | | | 2015 | | | | 2016 | | | |
|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Interface Design Updates | | | ▲ | | | | △ | | | | △ | | | | △ | | | | △ | | | | △ | | | | △ | |
| Software Development Updates (SIM/STIM) | | | ▲ | | | | △ | | | | △ | | | | △ | | | | △ | | | | △ | | | | △ | |
| Software Builds | | | ▲ | | | | △ | | | | △ | | | | △ | | | | △ | | | | △ | | | | △ | |
| APB Upgrades | ▲ | | | | ▲ | | | | △ | | | | △ | | | | △ | | | | △ | | | | △ | | | |
| SSGN 726 Development | ▲ | | | | | | | | △ | | | | △ | | | | | | | | | | | | | | | |
| SSGN Build | | | | | ▲ | | △ | | | | | | | | | | | | | | | | | | | | | |
| H/W Tech Insertion Additions/Updates | | | | | | | △ | | | | | | △ | | | | | | | | △ | | | | | | | |
| SSN-21 Software Testing | | | | | | | | | | | | | △ | | | | | | | | | | | | | | | |
| SSN-21 EDM Delivery | | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TI-0x New Sensor Simulation Development | ▲ | | | | | | | | | | | | △ | | | | | | | | | | | | | | | |
| TI-0x New Sensor Simulation EDM updates | ▲ | | ▲ | | ▲ | | △ | | | | △ | | △ | | △ | | | | | | | | | | | | | |

Page 1

UNCLASSIFIED

| | | |
|---|--|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604558N: <i>New Design SSN</i> | PROJECT 3062: <i>Submarine Multi-Mission Team Trainer</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 3062 | | | | |
| Interface Design Updates | 3 | 2010 | 3 | 2016 |
| Software Development Updates (SIM/STIM) | 4 | 2010 | 4 | 2016 |
| Software Builds | 4 | 2010 | 4 | 2016 |
| Advanced Processing Build (APB) Upgrades | 1 | 2010 | 1 | 2016 |
| SSGN 726 Development | 2 | 2010 | 2 | 2013 |
| SSGN Build | 1 | 2011 | 2 | 2011 |
| Hard Ware Tech Insertion Updates | 1 | 2010 | 1 | 2015 |
| SSN 21 Software Testing | 1 | 2010 | 1 | 2013 |
| SSN 21 EDM Delivery | 2 | 2010 | 2 | 2010 |
| TI-0x New Sensor Simulation Development | 1 | 2010 | 1 | 2013 |
| TI-0x New Sensor Simulation EDM Updates | 1 | 2010 | 1 | 2013 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604558N: <i>New Design SSN</i> | PROJECT 9999: <i>Congressional Adds</i> |
|---|--|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 9999: <i>Congressional Adds</i> | 30.274 | - | - | - | - | - | - | - | - | 0.000 | 30.274 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Congressional Adds.

B. Accomplishments/Planned Programs (\$ in Millions)

| | FY 2010 | FY 2011 |
|---|---------|---------|
| Congressional Add: Advanced Manufacturing for Sumbarine Bow Domes and Rubber Boots FY 2010 Accomplishments: Develop manufacturing processes for bow domes w/o autoclave | 1.593 | - |
| Congressional Add: Common Command and Control System Module FY 2010 Accomplishments: Develop a Common Command and Control System Module for submarines that is less costly and facilitates more efficient upgrades / changes and use of personnel. | 4.780 | - |
| Congressional Add: Mold in Place Coating Development for the Submarine Fleet FY 2010 Accomplishments: Development of Mold-In-Place (or Cast-In-Place) technology for composite bow domes. | 1.992 | - |
| Congressional Add: SMALL BUSINESS TECHNOLOGY INSERTION FY 2010 Accomplishments: Research and development efforts for fresh, creative, and innovative solutions to the Navy's requirements for high risk/high reward components of submarine combat system development. Various combat system component technology insertions/upgrades (torpedo, photonics, navigation data distribution, etc.) to reduce the cost of ship acquisition. | 19.917 | - |
| Congressional Add: Submarine Automated Test and Re-Test (ATRT) FY 2010 Accomplishments: Submarine Automated Test and Re-Test (ATRT) Develop an application to use Automated Test and Re-Test (ATRT) technology in testing of submarine systems. | 1.992 | - |
| Congressional Adds Subtotals | 30.274 | - |

UNCLASSIFIED

| | | |
|---|--|---|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604558N: <i>New Design SSN</i> | PROJECT 9999: <i>Congressional Adds</i> |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

Congressional Adds.

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604562N: <i>Submarine Tactical Warfare System</i> |
|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| Total Program Element | 69.723 | 50.537 | 48.466 | - | 48.466 | 49.451 | 49.828 | 50.635 | 50.758 | Continuing | Continuing |
| 0236: <i>SSN Comb Cont Sys Imprvmnt (ENG)</i> | 57.374 | 50.537 | 48.466 | - | 48.466 | 49.451 | 49.828 | 50.635 | 50.758 | Continuing | Continuing |
| 9999: <i>Congressional Adds</i> | 12.349 | - | - | - | - | - | - | - | - | 0.000 | 12.349 |

A. Mission Description and Budget Item Justification

Project Unit 0236: This program develops Commercial-Off-The-Shelf (COTS) based software and hardware upgrades to integrate improved tactical and weapons control capabilities for multiple submarine Classes (SSN-688, SSGN, SEAWOLF, and VIRGINIA (Post Shakedown Availability)). The AN/BYG-1 is the combat control system common across submarine platforms which incorporates tactical control, weapon control, and tactical Local Area Network (LAN) functions into a single development program. The hardware upgrades, Technology Insertions (TI) are developed on a biennial basis to provide improved capability and address COTS obsolescence. Funding also accommodates the biennial integration of software Advanced Processing Builds (APB) for both tactical control (APB(T)) and weapon control (APB(W)) subsystems. The tactical control integration effort incorporates the integration of other sensor (ESM, sonar, radar, etc.) inputs to provide a common operational picture and improved situational awareness in an information assurance (IA) compliant environment. The weapon control development effort provides improvements to the weapons control subsystem based on improvements to missiles and torpedoes. AN/BYG-1 allows the submarine Navy to rapidly update the ship safety tactical picture, integrate the common tactical picture into the battlegroup, improve torpedo interfaces, and provide Tactical TOMAHAWK (TOMAHAWK Block IV) capability.

This program also develops and tests a Common Weapon Launcher, a COTS-based software weapons launch capability for Virginia Class submarines. This upgrade provides a more reliable capability for launching missiles and torpedoes from submarines while providing the architecture to support the introduction of the next generation of payloads and sensors. This new design will also reduce the recurring costs of VA Class submarine weapon launch systems.

Project Unit 9999 is comprised of FY10 congressional adds for Artificial Intelligence-Based Combat System Kernel, Submarine System Biometrics Access Control, Submarine Environment for Evaluation and Development, Organic Submarine ISRT Demonstration and Weapon Acquisition and Firing System.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604562N: <i>Submarine Tactical Warfare System</i> |
|---|---|

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 67.024 | 50.537 | 53.826 | - | 53.826 |
| Current President's Budget | 69.723 | 50.537 | 48.466 | - | 48.466 |
| Total Adjustments | 2.699 | - | -5.360 | - | -5.360 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | - | - | | | |
| • SBIR/STTR Transfer | -2.074 | - | | | |
| • Program Adjustments | - | - | -4.731 | - | -4.731 |
| • Section 219 Reprogramming | -0.005 | - | - | - | - |
| • Rate/Misc Adjustments | - | - | -0.629 | - | -0.629 |
| • Congressional General Reductions Adjustments | -0.022 | - | - | - | - |
| • Congressional Add Adjustments | 4.800 | - | - | - | - |

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 9999: Congressional Adds

- Congressional Add: *Organic Submarine ISRT Demonstration (IRST OSAID)*
- Congressional Add: *Artificial Intelligence-Based Combat System Kernel*
- Congressional Add: *Submarine System Biometrics Access Control*
- Congressional Add: *Weapon Acquisition and Firing System*
- Congressional Add: *Submarine Environment for Evaluation and Developme*

Congressional Add Subtotals for Project: 9999

Congressional Add Totals for all Projects

| | FY 2010 | FY 2011 |
|---|----------------|----------------|
| | 2.390 | - |
| | 3.187 | - |
| | 1.992 | - |
| | 2.390 | - |
| | 2.390 | - |
| Congressional Add Subtotals for Project: 9999 | 12.349 | - |
| Congressional Add Totals for all Projects | 12.349 | - |

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

UNCLASSIFIED

| | | | | | | | | | | | |
|---|----------------|----------------|---------------------|---|----------------------|----------------|----------------|---|----------------|-------------------------|-------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | | | | | | | DATE: February 2011 | | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | R-1 ITEM NOMENCLATURE PE 0604562N: <i>Submarine Tactical Warfare System</i> | | | | PROJECT 0236: <i>SSN Comb Cont Sys Imprvmnt (ENG)</i> | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| 0236: <i>SSN Comb Cont Sys Imprvmnt (ENG)</i> | 57.374 | 50.537 | 48.466 | - | 48.466 | 49.451 | 49.828 | 50.635 | 50.758 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Project Unit 0236: This program develops Commercial-Off-The-Shelf (COTS) based software and hardware upgrades to integrate improved tactical and weapons control capabilities for multiple submarine Classes (SSN 688, SSGN, SEAWOLF, and VIRGINIA (Post Shakedown Availability)). The AN/BYG-1 is the combat control system common across submarine platforms which incorporates tactical control, weapon control, and tactical Local Area Network (LAN) functions into a single development program. The hardware upgrades Technology Insertions (TI) are developed on a biennial basis to provide improved capability and address COTS obsolescence. Funding also accommodates the biennial integration of software Advanced Processing Builds (APBs) for both tactical control (APB(T)) and weapon control (APB(W)) subsystems. The tactical control integration effort incorporates the integration of other sensor (ESM, sonar, radar, etc.) inputs to provide a common operational picture and improved situational awareness in an information assurance (IA) compliant environment. The weapon control development effort provides improvements to the weapons control subsystem based on improvements to missiles and torpedoes. AN/BYG-1 allows the submarine Navy to rapidly update the ship safety tactical picture, integrates the common tactical picture into the battlegroup, improves torpedo interfaces and provides Tactical TOMAHAWK (TOMAHAWK Block IV) capability.

This program also develops and tests a Common Weapon Launcher, a COTS-based software weapons launch capability for Virginia Class submarines. This upgrade provides a more reliable capability for launching missiles and torpedoes from submarines while providing the architecture to support the introduction of the next generation of payloads and sensors. This new design will also reduce the recurring costs of VA Class submarine weapon launch systems.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|---|----------------|----------------|----------------|
| Title: Advanced Processor Builds | 22.949 | 25.378 | 21.079 |
| Articles: | 0 | 0 | 0 |
| FY 2010 Accomplishments: | | | |
| Complete APB-09 integration into AN/BYG-1 (TI-10) baseline. | | | |
| Support development of APB-11 into AN/BYG-1 baseline. | | | |
| FY 2011 Plans: | | | |
| Continue development of APB-11 into AN/BYG-1 baseline. | | | |
| FY 2012 Plans: | | | |
| Complete APB-11 integration into AN/BYG-1 (TI-12) baseline. | | | |

UNCLASSIFIED

| | | | | |
|--|---|--|----------------|----------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604562N: <i>Submarine Tactical Warfare System</i> | PROJECT 0236: <i>SSN Comb Cont Sys Imprvmt (ENG)</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| Support development of APB-13 into AN/BYG-1 baseline. Title: AN/BYG-1 TI-08 | | | | |
| Articles: | | 3.183 0 | - | - |
| FY 2010 Accomplishments: Complete development, integration, and test of the next generation AN/BYG-1 (TI-08) for SSN 688/Seawolf/Virginia Class submarines scheduled for final delivery in FY10. | | | | |
| Title: AN/BYG-1 TI-10 | | | | |
| Articles: | | 13.482 0 | 6.616 0 | 3.320 0 |
| FY 2010 Accomplishments: Continue development, integration, and test of the next generation AN/BYG-1 (TI-10) for SSN 688/SSGN/VA Class submarines. | | | | |
| FY 2011 Plans: Continue development, integration, and test of the next generation AN/BYG-1 (TI-10) for SSN 688/SSGN/VA Class submarines. | | | | |
| FY 2012 Plans: Complete development, integration, and test of the next generation AN/BYG-1 (TI-10) for SSN 688/SSGN/VA Class submarines. | | | | |
| Title: AN/BYG-1 TI-12 | | | | |
| Articles: | | 2.660 0 | 6.001 0 | 10.533 0 |
| FY 2010 Accomplishments: Begin engineering development process for selection and prototyping of new technologies. | | | | |
| FY 2011 Plans: Continue development, integration, and test of the next generation AN/BYG-1 (TI-12) for SSN 688/SSGN/VA Class submarines. | | | | |
| FY 2012 Plans: Continue development, integration, and test of the next generation AN/BYG-1 (TI-12) for SSN 688/SSGN/VA Class submarines. | | | | |
| Title: Testing | | | | |
| Articles: | | 4.000 0 | 6.000 0 | 4.000 0 |
| FY 2010 Accomplishments: Complete DT/OT for AN/BYG-1 TI-08 and APB-07 on SSN 688/SSGN/Seawolf/VA Class submarines. Begin DT/OT for AN/BYG-1 APB-09 on SSN 688/SSGN/VA Class submarines. | | | | |
| FY 2011 Plans: | | | | |

UNCLASSIFIED

UNCLASSIFIED

| | | | | |
|--|---|---|----------------|----------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604562N: <i>Submarine Tactical Warfare System</i> | PROJECT 0236: <i>SSN Comb Cont Sys Imprvmnt (ENG)</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| Complete DT/OT for AN/BYG-1 APB-09 on 688 Class/SSGN/VA Class submarines. Begin DT/OT for AN/BYG-1 TI-10 on SSN 688/SSGN/Seawolf/VA Class submarines. FY 2012 Plans: Complete DT/OT AN/BYG-1 TI-10 on SSN 688/SSGN/Seawolf/VA Class submarines. Begin DT/OT for AN/BYG-1 APB-11 on SSN 688/SSGN/VA Class submarines. | | | | |
| Title: Information Assurance (IA) FY 2010 Accomplishments: Develop and Integrate IA Toolkit and conduct IA Certification Testing on BYG-1 TI-10. FY 2011 Plans: Complete integration of IA Toolkit and continue IA Certification Testing on BYG-1 TI-10. FY 2012 Plans: Develop integration of IA Toolkit and conduct IA Certification Testing on BYG-1 TI-12. | | Articles: 6.100 0 | 6.542 0 | 6.356 0 |
| Title: Common Weapon Launcher (CWL) FY 2010 Accomplishments: Complete integration of CWL with AN/BYG-1 TI-10 on VA Class submarines. | | Articles: 5.000 0 | - | - |
| Title: AN/BYG-1 TI-14 FY 2012 Plans: Begin engineering development process for selection and prototyping of new technologies. | | - | - | 3.178 0 |
| Accomplishments/Planned Programs Subtotals | | 57.374 | 50.537 | 48.466 |
| C. Other Program Funding Summary (\$ in Millions) N/A | | | | |
| D. Acquisition Strategy This budget integrates APBs developed by the advanced development community. This program has been tailored in accordance with the new DoD5000 directive to incorporate annual MDA production reviews. | | | | |

UNCLASSIFIED

UNCLASSIFIED

| | | |
|--|---|---|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604562N: <i>Submarine Tactical Warfare System</i> | PROJECT 0236: <i>SSN Comb Cont Sys Imprvmnt (ENG)</i> |
| Advanced Processing Builds (APB) products associated with AN/BYG-1 Release-To- Fleet 3Q 2011, 3Q 2013 and 3Q 2015. | | |
| <u>E. Performance Metrics</u> AN/BYG-1 Submarine Combat and Weapon Control System performance metrics for each Advanced Processor Build (APB) and Technology Insertion (TI) cycle are contained in the classified Capability Production Document (CPD) annex to the overarching system requirements as laid out in the Capabilities Development Document (CDD). Each APB cycle receives an updated CPD based on fleet required capabilities. | | |

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604562N: <i>Submarine Tactical Warfare System</i> | PROJECT 0236: <i>SSN Comb Cont Sys Imprvmnt (ENG)</i> |
|---|---|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|---|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| AN/BYG-1 TECH INSERTION | C/CPHF | GENERAL DYNAMICS (GDAIS):FAIR LAKES, VA | 60.121 | 6.411 | Oct 2010 | 6.338 | Oct 2011 | - | | 6.338 | Continuing | Continuing | Continuing |
| AN/BYG-1 TECH INSERTION | C/CPHF | GENERAL DYNAMICS (GDAIS):PITTSFIELD, MA | 8.684 | 8.945 | Oct 2010 | 8.847 | Oct 2011 | - | | 8.847 | Continuing | Continuing | Continuing |
| GOVERNMENT ENGINEERING | WR | NUWC:NEWPORT, RI | 71.406 | 2.588 | Oct 2010 | 2.653 | Oct 2011 | - | | 2.653 | Continuing | Continuing | Continuing |
| INFORMATION ASSURANCE | C/CPAF | PROGENY:MANASSAS, VA | 6.100 | 6.542 | Oct 2010 | 6.356 | Oct 2011 | - | | 6.356 | Continuing | Continuing | Continuing |
| AN/BYG-1 TECH INSERTION | C/CPAF | RAYTHEON:PORTSMOUTH, RI | 53.350 | - | | - | | - | | - | 0.000 | 53.350 | 53.350 |
| MULTI TUBE WEAPON SIMULATOR | Various | PROGENY:Not Specified | 2.635 | - | | - | | - | | - | 0.000 | 2.635 | 2.635 |
| AN/BYG-1 TECH INSERTION | Various | MITRE:Not Specified | 2.429 | - | | - | | - | | - | 0.000 | 2.429 | 2.429 |
| AN/BYG-1 TECH INSERTION | C/CPHF | ANTEON:Not Specified | 6.000 | - | | - | | - | | - | 0.000 | 6.000 | 6.000 |
| COTS HARDWARE & SOFTWARE | C/CPAF | DDL OMNI:Not Specified | 8.500 | - | | - | | - | | - | 0.000 | 8.500 | 8.500 |
| COMMON WEAPON LAUNCHER | C/CPAF | PROGENY:Not Specified | 38.329 | - | | - | | - | | - | 0.000 | 38.329 | 38.329 |
| Subtotal | | | 257.554 | 24.486 | | 24.194 | | - | | 24.194 | | | |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|------------------------|--|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| APB SOFTWARE INTEGRATION | C/CPHF | GENERAL DYNAMICS (GDAIS):FAIRLAKES, VA | 47.285 | 3.605 | Oct 2010 | 3.570 | Oct 2011 | - | | 3.570 | Continuing | Continuing | Continuing |
| APB SOFTWARE INTEGRATION | C/CPHF | GENERAL DYNAMICS:PITTSFIELD, MA | 4.500 | 4.635 | Oct 2010 | 4.590 | Oct 2011 | - | | 4.590 | Continuing | Continuing | Continuing |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604562N: <i>Submarine Tactical Warfare System</i> | PROJECT 0236: <i>SSN Comb Cont Sys Imprvmnt (ENG)</i> |
|---|---|---|

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| APF SOFTWARE INTEGRATION | WR | NUWC:NEWPORT, RI | 29.978 | 5.220 | Oct 2010 | 5.382 | Oct 2011 | - | | 5.382 | Continuing | Continuing | Continuing |
| SOFTWARE DEVELOPMENT | Various | VARIOUS:Not Specified | 36.679 | 3.636 | Oct 2010 | 4.286 | Oct 2011 | - | | 4.286 | Continuing | Continuing | Continuing |
| APB SOFTWARE INTEGRATION | C/CPAF | RAYTHEON:PORTSMOUTH, RI | 44.466 | - | | - | | - | | - | 0.000 | 44.466 | 44.466 |
| Subtotal | | | 162.908 | 17.096 | | 17.828 | | - | | 17.828 | | | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| DEVELOPMENT TEST & EVALUATION | WR | NUWC:NEWPORT, RI | 23.814 | 3.800 | Oct 2010 | 2.599 | Oct 2011 | - | | 2.599 | Continuing | Continuing | Continuing |
| TEST & EVALUATION | Various | VARIOUS:Not Specified | 2.295 | 2.200 | Oct 2010 | 1.401 | Oct 2011 | - | | 1.401 | Continuing | Continuing | Continuing |
| OPERATIONAL TEST & EVALUATION | WR | COMOPTEVFOR:Not Specified | 16.169 | - | | - | | - | | - | 0.000 | 16.169 | 16.169 |
| Subtotal | | | 42.278 | 6.000 | | 4.000 | | - | | 4.000 | | | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| PROGRAM MANAGEMENT SUPPORT | C/CPFF | EG&G:ARLINGTON, VA | 11.330 | 2.705 | Oct 2010 | 2.184 | Oct 2011 | - | | 2.184 | Continuing | Continuing | Continuing |
| TRAVEL | WR | NAVSEA:ARLINGTON, VA | 0.370 | 0.250 | Oct 2010 | 0.260 | Oct 2011 | - | | 0.260 | Continuing | Continuing | Continuing |
| ACQUISITION WORKFORCE | Various | Not Specified:Not Specified | - | - | | - | | - | | - | 0.000 | 0.000 | 0.282 |
| Subtotal | | | 11.700 | 2.955 | | 2.444 | | - | | 2.444 | | | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604562N: <i>Submarine Tactical Warfare System</i> | PROJECT 0236: <i>SSN Comb Cont Sys Imprvmnt (ENG)</i> |
|---|---|---|

| FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|
| 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |

| | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|---|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|
| Proj 0236 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Common Weapon Launcher - Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AN/BYG-1 TI-08 - Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AN/BYG-1 APB-07/TI-08 DT/OT | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AN/BYG-1 APB-09 Integration & Test, Certification | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AN/BYG-1 TI-10 Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AN/BYG-1 TI-10 DT/OT | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AN/BYG-1 APB-11 Integration & Test, Certification | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AN/BYG-1 APB-11 DT/OT | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AN/BYG-1 TI-12 Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AN/BYG-1 TI-12 DT/OT | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AN/BYG-1 APB-13 Integration & Test, Certification | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AN/BYG-1 APB-13 DT/OT | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AN/BYG-1 TI-14 Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AN/BYG-1 APB-15 Integration & Test, Certification | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AN/BYG-1 TI-16 Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AN/BYG-1 APB-09 DT/OT | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604562N: <i>Submarine Tactical Warfare System</i> | PROJECT 0236: <i>SSN Comb Cont Sys Imprvmnt (ENG)</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 0236 | | | | |
| Common Weapon Launcher - Development | 1 | 2010 | 4 | 2010 |
| AN/BYG-1 TI-08 - Development | 1 | 2010 | 3 | 2010 |
| AN/BYG-1 APB-07/TI-08 DT/OT | 1 | 2010 | 1 | 2010 |
| AN/BYG-1 APB-09 Integration & Test, Certification | 1 | 2010 | 3 | 2010 |
| AN/BYG-1 TI-10 Development | 1 | 2010 | 3 | 2011 |
| AN/BYG-1 TI-10 DT/OT | 4 | 2011 | 1 | 2012 |
| AN/BYG-1 APB-11 Integration & Test, Certification | 4 | 2010 | 3 | 2012 |
| AN/BYG-1 APB-11 DT/OT | 4 | 2012 | 1 | 2013 |
| AN/BYG-1 TI-12 Development | 4 | 2010 | 3 | 2013 |
| AN/BYG-1 TI-12 DT/OT | 4 | 2013 | 1 | 2014 |
| AN/BYG-1 APB-13 Integration & Test, Certification | 4 | 2012 | 3 | 2014 |
| AN/BYG-1 APB-13 DT/OT | 4 | 2014 | 1 | 2015 |
| AN/BYG-1 TI-14 Development | 4 | 2012 | 3 | 2015 |
| AN/BYG-1 APB-15 Integration & Test, Certification | 4 | 2014 | 4 | 2015 |
| AN/BYG-1 TI-16 Development | 4 | 2014 | 4 | 2015 |
| AN/BYG-1 APB-09 DT/OT | 4 | 2010 | 1 | 2011 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604562N: <i>Submarine Tactical Warfare System</i> | PROJECT 9999: <i>Congressional Adds</i> |
|---|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 9999: <i>Congressional Adds</i> | 12.349 | - | - | - | - | - | - | - | - | 0.000 | 12.349 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Congressional Adds.

B. Accomplishments/Planned Programs (\$ in Millions)

| | FY 2010 | FY 2011 |
|---|---------|---------|
| Congressional Add: Organic Submarine ISRT Demonstration (IRST OSAID) | 2.390 | - |
| FY 2010 Accomplishments: This congressional add will refine the design of the Submarine Trash Disposal Unit (TDU) Unmanned Aerial Vehicle (UAV) Deployment System (STUDS) and demonstrate it's operation from a submarine using an actual flying UAV. | | |
| Congressional Add: Artificial Intelligence-Based Combat System Kernel | 3.187 | - |
| FY 2010 Accomplishments: The congressional add will be used to incorporate a mission focused, decision-tailored Command Decision Support System (CDSS) with a CANES-compliant and COTS-based Services Oriented Architecture framework, which will enable optimized manning through the introduction of Intelligent Agent-Based automation, advanced visualization, and emerging collaboration technologies. | | |
| Congressional Add: Submarine System Biometrics Access Control | 1.992 | - |
| FY 2010 Accomplishments: This congressional add will use properly configured biometrics systems, engineered into tactical system workstations and submarine ship infrastructure, that will offer the ability for systems to reliably recognize users without user intervention, resulting in rapid, automatic, secure system access for the varying levels of system capabilities, based on user privileges. | | |
| Congressional Add: Weapon Acquisition and Firing System | 2.390 | - |
| FY 2010 Accomplishments: This congressional add will initiate research and development efforts as well as allowing for at-sea testing and implementations of real-time algorithms and associated in-board electronics necessary for installation on legacy and future classes of submarines and potential multiple platforms across the Department of Defense. | | |
| Congressional Add: Submarine Environment for Evaluation and Developme | 2.390 | - |

UNCLASSIFIED

| | |
|--|----------------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | DATE: February 2011 |
|--|----------------------------|

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604562N: <i>Submarine Tactical Warfare System</i> | PROJECT 9999: <i>Congressional Adds</i> |
|---|---|---|

| B. Accomplishments/Planned Programs (\$ in Millions) | FY 2010 | FY 2011 |
|--|----------------|----------------|
| <i>FY 2010 Accomplishments:</i> This congressional add will provide a low-cost test bed for industry and academia to create and evaluate innovative ideas and to integrate their products into currently deployed and conceptual systems. | | |
| Congressional Adds Subtotals | 12.349 | - |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

Congressional Adds.

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i> |
|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---|---------|---------|-----------------|----------------|------------------|---------|---------|---------|---------|---------------------|------------|
| Total Program Element | 91.771 | 153.686 | 161.099 | - | 161.099 | 190.301 | 138.186 | 104.039 | 93.153 | Continuing | Continuing |
| 1803: <i>Ship Contract Design</i> | 8.017 | 18.464 | 18.642 | - | 18.642 | 20.304 | 19.994 | 18.608 | 18.784 | Continuing | Continuing |
| 2465: <i>LHA(R) FLT Design and Total Ship Integration</i> | 8.720 | 10.383 | 26.702 | - | 26.702 | 29.195 | 26.892 | 14.289 | 3.949 | Continuing | Continuing |
| 3108: <i>CVN 80 Total Ship Integration</i> | - | - | - | - | - | 42.961 | 47.457 | 47.678 | 47.052 | Continuing | Continuing |
| 3133: <i>Sea Base to Shore Connectors (Contract Des)</i> | 33.853 | 20.349 | 2.468 | - | 2.468 | 0.882 | 0.078 | 3.812 | 3.632 | Continuing | Continuing |
| 3137: <i>SSC Construction</i> | - | 80.463 | 92.466 | - | 92.466 | 81.085 | 27.789 | 3.314 | 3.102 | Continuing | Continuing |
| 3179: <i>CVN-79 Total Ship Integration</i> | 35.723 | 21.324 | 19.176 | - | 19.176 | 14.697 | 14.804 | 15.141 | 15.415 | Continuing | Continuing |
| 4007: <i>CVN 21 LFT&E</i> | 2.271 | 2.703 | 1.645 | - | 1.645 | 1.177 | 1.172 | 1.197 | 1.219 | Continuing | Continuing |
| 9999: <i>Congressional Adds</i> | 3.187 | - | - | - | - | - | - | - | - | 0.000 | 3.187 |

A. Mission Description and Budget Item Justification

This Program Element (PE) directly supports the Navy's Shipbuilding Plan by providing for the development of engineering, programmatic and acquisition documentation including ship specifications (including performance specifications) and contractual documentation associated with acquisition of Navy ships. This PE also supports the Congressionally mandated Live Fire Test and Evaluation (LFT&E) program for new ship designs.

Contract Design has traditionally been the engineering development of the technical and contractual definition of the ship design (including ship specifications and drawings) to a level of detail sufficient for shipbuilders to make a sound estimate of the construction cost and schedule. Additionally, the contract design package developed under this PE has provided the technical baseline from which the Navy selects the shipbuilder who then develops the detail design package required to support the construction and eventual delivery of the ship. This PE also supports the development of design methodologies/tools which facilitate and optimize the transition from ship design documents to efficient production of new ships and ship conversions, and supports engineering planning and ship affordability studies.

Under Acquisition Reform for new design ships, traditional distinct phasing of the design process has been replaced with a continuous concurrent engineering Integrated Product and Process Development (IPPD) process extending through and after contract award. This serves to maintain the focus of multi-discipline teams consisting of the government, shipbuilder, system programs, and suppliers. Government/Industry Integrated Product Team(s) (IPTs) will utilize the IPPD process to develop the design in an Integrated Product and Data Environment (IPDE). The design approach is part of an acquisition strategy that is based on commercial practices and incorporates a phased technical definition.

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i> |
|---|---|

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 91.587 | 153.686 | 153.107 | - | 153.107 |
| Current President's Budget | 91.771 | 153.686 | 161.099 | - | 161.099 |
| Total Adjustments | 0.184 | - | 7.992 | - | 7.992 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | 3.865 | - | | | |
| • SBIR/STTR Transfer | -3.125 | - | | | |
| • Program Adjustments | - | - | 9.651 | - | 9.651 |
| • Section 219 Reprogramming | -0.545 | - | - | - | - |
| • Rate/Misc Adjustments | - | - | -1.659 | - | -1.659 |
| • Congressional General Reductions Adjustments | -0.011 | - | - | - | - |

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 9999: Congressional Adds

Congressional Add: *Automated Fiber Optic Manufacturing Initiative*

Congressional Add: *Landing Craft Composite Lift Fan*

Congressional Add Subtotals for Project: 9999

Congressional Add Totals for all Projects

| | FY 2010 | FY 2011 |
|---|----------------|----------------|
| | 1.992 | - |
| | 1.195 | - |
| Congressional Add Subtotals for Project: 9999 | 3.187 | - |
| Congressional Add Totals for all Projects | 3.187 | - |

Change Summary Explanation

Increases in FY 2012 primarily associated with efforts supporting the LHA-8 within project 2465

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i> | PROJECT 1803: <i>Ship Contract Design</i> |
|---|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|-----------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 1803: <i>Ship Contract Design</i> | 8.017 | 18.464 | 18.642 | - | 18.642 | 20.304 | 19.994 | 18.608 | 18.784 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

CG and DDG Modernization:

The major effort is the engineering development of the technical and contractual definition of the ship's design (e.g. ship specifications and drawings), with sufficient details for the planning yard to make a sound estimate of cost and schedule. It also serves as the technical definition from which the planning yard develops the detailed design and testing package required to build and test the ship. It provides the Navy with a digital, ship design knowledge base, including lessons learned, required to ensure that a proper development, analysis and evaluation can be conducted of any current or future planned.

Another area this project funds is the development of specific Navy ship criteria and standards for newly developed technologies. Additionally, as new laws are passed, new safety regulations and environmental criteria are developed and other legal/Congressional requirements identified, this project funds the translation into Navy ship design criteria

and standards. This project also funds the translation of the traditional Ship Specifications into performance-based criteria, which supports the development of design methodologies/tools which facilitate and optimize the transition from ship design documents to ship alterations. This project also supports ship survivability studies, superstructure integrity analysis, developmental and operational testing, gun weapon system software integration and next generation Machinery Control System (MCS) software integration.

DON Energy Initiative - Hybrid Electric Drive

Beginning in FY 2011, this project includes an increment for the DON Energy Initiative related to the DDG 51 Hybrid Electric Drive to reduce DDG 51 Class ship energy consumption and increase mission effectiveness through longer time on station. This project supports propulsion at low ship speeds without the need for LM 2500 main engines. Fuel savings from the Hybrid Electric Drive system will be achieved by utilizing fewer gas turbines for propulsion and ship service power generation while also loading gas turbines at their optimal operating condition. Provides critical foundation for SECNAV and CNO objectives to achieve greater Navy-wide energy security.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|--|---------|---------|---------|
| Title: Ship Contract Design | 8.017 | 4.864 | 4.074 |
| Articles: | 0 | 0 | 0 |
| FY 2010 Accomplishments: | | | |
| For Cruisers, specific efforts include, but are not limited to Technical Data Package development, Detailed Design Products, Engineering Analysis, operational testing, feasibility studies, and topside analysis, related to the next generation Advanced | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i> | PROJECT 1803: <i>Ship Contract Design</i> |
|---|---|---|

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|--|---------|-------------|-------------|
| <p>Capability Build (ACB-12). For DDGs, specific efforts are related to Gun Computing System (GCS) development for the MK 45 interface to a digital MK 116 Gun Computing System.</p> <p>FY 2011 Plans: For Cruisers & DDGs, specific efforts include, but are not limited to Technical Data Package development, Detailed Design Products, Engineering Analysis, operational testing, feasibility studies, and topside analysis, related to the next generation Advanced Capability Build (ACB-12). For DDGs, specific efforts are related to Gun Computing System (GCS) development for the MK 45 interface to a digital MK 116 Gun Computing System and next generation MCS software integration.</p> <p>FY 2012 Plans: For Cruisers & DDGs, specific efforts include, but are not limited to Technical Data Package development, Detailed Design Products, Engineering Analysis, developmental and operational test event planning, feasibility studies, and topside analysis, related to the next generation Advanced Capability Build. DDG efforts also include next generation MCS software integration.</p> | | | |
| <p>Title: DON Energy Initiative</p> <p align="right">Articles:</p> <p>Description: Beginning in FY 2011, this project includes an increment for the DON Energy Initiative related to the DDG 51 Hybrid Electric Drive to reduce DDG 51 Class ship energy consumption and increase mission effectiveness through longer time on station.</p> <p>FY 2011 Plans: Source selection and First Article (FA) contract award for detailed design, design review, and Engineering Development Model (EDM) for DDG-51 Class Hybrid Electric Drive.</p> <p>FY 2012 Plans: EDM & FA design and manufacturing.</p> | - | 13.600 0 | 14.568 0 |
| Accomplishments/Planned Programs Subtotals | 8.017 | 18.464 | 18.642 |

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> <u>Base</u> | <u>FY 2012</u> <u>OCO</u> | <u>FY 2012</u> <u>Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
|--------------------------------------|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| • OPN 0900: <i>DDG Modernization</i> | 159.296 | 296.691 | 119.522 | 0.000 | 119.522 | 441.455 | 346.020 | 692.153 | 519.938 | Continuing | Continuing |
| • OPN 0960: <i>CG Modernization</i> | 316.711 | 356.958 | 590.349 | 0.000 | 590.349 | 594.209 | 642.274 | 246.502 | 245.904 | Continuing | Continuing |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i> | PROJECT 1803: <i>Ship Contract Design</i> |
|---|---|---|

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> <u>Base</u> | <u>FY 2012</u> <u>OCO</u> | <u>FY 2012</u> <u>Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
|-------------------------------------|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| • WPN 4223: <i>CG Modernization</i> | 51.069 | 52.426 | 50.013 | 0.000 | 50.013 | 51.496 | 51.974 | 27.938 | 28.754 | Continuing | Continuing |

D. Acquisition Strategy

N/A

E. Performance Metrics

CG/DDG Modernization:

Aluminum sensitization study to determine the lifetime until sensitization for an aluminum alloys and stress and buckling analysis of the CG 52 Class ship structure and develop proposed fatigue fixes in the high stress areas to produce a technical report with modifications or improvements to the ship that may be necessary to preclude cracking in the areas of concern. Baseline 2 cruiser survivability analysis will develop a CG 52 ship description database (current and modernized designs). Conduct database and Integrated Recoverability Model (IRM) Simulation verification and validation. Conduct IRM runs and analysis for selected threats and hit distributions. Development, integration, and testing of a digital video capability for the MK 34 Gun Weapon System with the Common Display System (CDS) and Common Processing System (CPS) as part of the TI-12/ACB-12 AEGIS Combat System upgrade for Cruiser and Destroyer Modernization programs. This includes integration of an Inertial Measuring Unit into the Electro-Optical Sensor System to compensate for the dynamic motion, providing accurate bearing and elevation data to the MK 160 GCS computing. Additional efforts for DDG Mod include design and development for next generation MCS software integration.

Hybrid Electric Drive (HED) DON Energy Initiative: Successful completion of Engineering Development Model (EDM) and complete fielding of First Article (FA) including contract award, design, manufacturing, and delivery. Successful completion of Factory Acceptance Test (FAT) and performance testing in Land Based Engineering Site (LBES). Commencement, completion, delivery and installation of Low Rate Initial Production (LRIP) units. Achieve fuel efficiency and on-station time.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i> | PROJECT 1803: <i>Ship Contract Design</i> |
|---|---|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| CG Mod Electronics Systems Eng | C/CPAF | Lockheed:Martin, Moorestown, NJ | 16.002 | 1.411 | Feb 2011 | - | | - | | - | Continuing | Continuing | Continuing |
| DON Energy Initiative | C/CPAF | NSWC/SSES:Philadelphia | - | 13.600 | Feb 2011 | 14.580 | Dec 2011 | - | | 14.580 | Continuing | Continuing | Continuing |
| Subtotal | | | 16.002 | 15.011 | | 14.580 | | - | | 14.580 | | | |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|-----------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| DDG/CGM Program / Engineering Spt | WR | NSWC/DD:Dahlgren, VA | 4.142 | 0.560 | Feb 2011 | 0.560 | Dec 2011 | - | | 0.560 | Continuing | Continuing | Continuing |
| DDGM Program/ Engineering Spt | Various | SUPSHIP/BATH:Bath, ME | 1.279 | 1.000 | Feb 2011 | 0.884 | Dec 2011 | - | | 0.884 | Continuing | Continuing | Continuing |
| DDG/CGM Program / Engineering Spt | C/CPAF | CSC/BAE:Hampton, VA | 5.219 | 0.300 | Feb 2011 | 0.300 | Dec 2011 | - | | 0.300 | Continuing | Continuing | Continuing |
| DDG/CGM Program / Engineering Spt | WR | SPAWARSSYSCEN:Charleston, SC | 1.333 | 0.300 | Feb 2011 | 0.300 | Dec 2011 | - | | 0.300 | Continuing | Continuing | Continuing |
| CGM Program / Engineering Spt | WR | NRL:Washington, DC | 0.663 | 0.030 | Feb 2011 | 0.030 | Dec 2011 | - | | 0.030 | Continuing | Continuing | Continuing |
| CGM Program / Engineering Spt | C/CPAF | JJMA/ALION:Washington, DC | 2.500 | - | | 0.825 | Dec 2011 | - | | 0.825 | Continuing | Continuing | Continuing |
| CGM Program / Engineering Spt | WR | NSWC/PHD:Port Hueneme, CA | 1.825 | - | | - | | - | | - | 0.000 | 1.825 | |
| DDG/CGM Program / Engineering Spt | WR | NSWC/BETHESDA:Bethesda, MD | 2.799 | 0.350 | Feb 2011 | 0.350 | Dec 2011 | - | | 0.350 | Continuing | Continuing | Continuing |
| CGM Program / Engineering Spt | Various | SUPSHIP/PASCAGOULA:Pascagoula, MS | 3.286 | 0.310 | Feb 2011 | 0.310 | Dec 2011 | - | | 0.310 | Continuing | Continuing | Continuing |
| CGM Program / Engineering Spt | WR | COMOPTEVFOR:Norfolk, VA | 0.030 | - | | - | | - | | - | 0.000 | 0.030 | |

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy | DATE: February 2011 | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i> | PROJECT 1803: <i>Ship Contract Design</i> |

| Fiscal Year | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | 2014 | | | | 2015 | | | | 2016 | | | | | | | | | | | | | | | | | |
|---------------------------------------|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Acquisition Milestones | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | | | | | | | | | | | | | | |
| CG Baseline 2 Mod Design | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CG Baseline 3 Mod Design | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CG Baseline 4 Mod Design | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DDG Technical Insertion 12 Mod Design | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DDG Technical Insertion 16 Mod Design | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hybrid Electric Drive Contract Design | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Milestones HED Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CG Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DDG Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i> | PROJECT 1803: <i>Ship Contract Design</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 1803 | | | | |
| CGM Baseline 2 Mod Design | 1 | 2010 | 4 | 2012 |
| CGM Baseline 3 Mod Design | 1 | 2011 | 4 | 2013 |
| CGM Baseline 4 Mod Design | 1 | 2012 | 4 | 2016 |
| DDG Technical Insertion 12 Mod Design | 1 | 2010 | 4 | 2012 |
| DDG Technical Insertion 16 Mod Design | 1 | 2012 | 4 | 2016 |
| Hybrid Electric Drive Contract Design | 1 | 2011 | 4 | 2016 |
| Hybrid Electric Drive Engineering Development Model Contract Award | 4 | 2011 | 4 | 2011 |
| Hybrid Electric Drive Engineering Development Model Delivery | 3 | 2013 | 3 | 2013 |
| Hybrid Electric Drive Low Rate Initial Production (LRIP) | 1 | 2015 | 1 | 2015 |
| CGM Deliveries (CG53,58,54,56,57,55,62,60,59,64,63,65,66,71,67,69,70) | 3 | 2010 | 2 | 2016 |
| DDGM Deliveries (DDG53,65,52,51,69,57) | 2 | 2013 | 2 | 2016 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | | | | R-1 ITEM NOMENCLATURE | | | | PROJECT | | | |
|---|----------------|----------------|---------------------|---|----------------------|----------------|----------------|---|----------------|-------------------------|-------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i> | | | | 2465: <i>LHA(R) FLT Design and Total Ship Integration</i> | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| 2465: <i>LHA(R) FLT Design and Total Ship Integration</i> | 8.720 | 10.383 | 26.702 | - | 26.702 | 29.195 | 26.892 | 14.289 | 3.949 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

This project provides the contract design, development and testing efforts for the Amphibious Assault Ship Replacement Program LHA(R). The LHA (R) is a ship construction program designed to: (1) provide a functional replacement for the Amphibious Assault Ships which begin reaching the end of their extended service lives after FY11 (2) be a key platform in the Amphibious Readiness Group (ARG) of the future and (3) provide for an affordable and sustainable amphibious ship development program. LHA(R) ships will provide forward presence and power projection as an integral part of Joint, inter-agency, and multi-national maritime expeditionary forces. Additionally, LHA(R) will be designed to operate for sustained periods in transit to and operations in an Amphibious Objective Area to include the embarkation, deployment, and landing of a Marine Landing Force in an assault by helicopters and tilt rotors (MV-22) supported by Joint Strike Fighters (F-35B).

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|--|----------------|----------------|----------------|
| Title: LHA(R) FLT Design and Total Ship Integration | 8.720 | 10.383 | 26.702 |
| Articles: | 0 | 0 | 0 |
| FY 2010 Accomplishments: | | | |
| Continued Development Testing and Operational Testing Preparations. | | | |
| Continued updating the Test and Evaluation Master Plan (TEMP). | | | |
| Continued updating the LFT&E Management Plan. | | | |
| Continued revising the Vulnerability Assessment Report (VAR). | | | |
| Continued evaluating the interoperability data support Key Performance Parameters (KPP). | | | |
| Continued LHA 8 Concept studies including Modeling and Simulation Study for Marine Corps. | | | |
| FY 2011 Plans: | | | |
| Continue Development Testing and Operational Testing Preparations. | | | |
| Complete updating the LFT&E Management Plan. | | | |
| Finalize the Initial Vulnerability Assessment Report (VAR). | | | |
| Complete updating the Test and Evaluation Master Plan (TEMP). | | | |
| Continue evaluating the interoperability data supporting Key Performance Parameters (KPP). | | | |
| Begin LHA 8 Trade Studies and Preliminary Design efforts. | | | |
| Begin LHA 8 Capability Development Document (CDD) and Concepts of Operations (CONOPS). | | | |
| FY 2012 Plans: | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i> | PROJECT 2465: <i>LHA(R) FLT Design and Total Ship Integration</i> |
|---|---|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|--|---------|---------|---------|
| Continue Development Testing and Operational Testing Preparations. Initiate Final VAR. Continue evaluating the interoperability data support Key Performance Parameters (KPP). Continue LHA 8 Preliminary Design. Continue Capability Development Document (CDD) and Concepts of Operations (CONOPS). Initiate Operational Test and Evaluation. Initiate Total Ship Survivability Trial. | | | |
| Accomplishments/Planned Programs Subtotals | 8.720 | 10.383 | 26.702 |

C. Other Program Funding Summary (\$ in Millions)

| Line Item | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|---------|---------|-----------------|----------------|------------------|---------|---------|---------|-----------|---------------------|------------|
| • SCN/3041: <i>LHA(R) Ships</i> | 169.476 | 949.897 | 2,018.691 | 0.000 | 2,018.691 | 0.000 | 0.000 | 130.838 | 1,639.991 | 2,627.561 | 7,536.454 |
| • SCN: <i>LHA 6 - Cost to Complete</i> | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 66.085 | 0.000 | 0.000 | 0.000 | 0.000 | 66.085 |

D. Acquisition Strategy

Acquisition strategy signed February 7, 2005 approved strategy for sole source to Northrop Grumman Shipbuilding (NGSB) to incorporate previous LHD engineering, design and producibility lessons-learned into LHA(R). Advanced Procurement (AP) contract for Long Lead-Time Material (LLTM) procurement and engineering support awarded July 05 with continuation of these efforts in FY06 prior to award of Detail Design and Construction (DD&C) contract on 1 June 2007. The Advance Procurement contract was subsumed by the FPI DD&C contract.

USD (AT&L) signed ADM on 31 March 2010 to authorize the Navy to spend Advance Procurement funds for the LHA 7. An Advance Procurement (AP) contract was awarded to Northrop Grumman Shipbuilding (NGSB) on 30 June 2010. RFP for the LHA 7 DD&C contract was issued on 20 July 2010.

E. Performance Metrics

Successfully achieve Initial Operational Capability, successfully complete Operational Test and Milestone Reviews.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i> | PROJECT 2465: <i>LHA(R) FLT Design and Total Ship Integration</i> |
|---|---|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Ship Design | WR | NSWC:Various | 88.308 | 5.274 | Dec 2010 | 4.616 | Dec 2011 | - | | 4.616 | 6.565 | 104.763 | |
| Ship Design | C/CPFF | NGSB:Pascagoula, MS | 4.619 | 0.200 | Feb 2011 | 0.200 | Dec 2011 | - | | 0.200 | 0.000 | 5.019 | |
| Ship Design | TBD | TBD:Not Specified | - | - | | 12.002 | Dec 2011 | - | | 12.002 | Continuing | Continuing | Continuing |
| Special Studies | WR | NSWC:Panama City, FL | 2.700 | - | | - | | - | | - | 0.000 | 2.700 | |
| Subtotal | | | 95.627 | 5.474 | | 16.818 | | - | | 16.818 | | | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Developmental Test & Evaluation | WR | OPTEVFOR/MCOTEA:Norfolk, VA/Quantico, VA | 2.903 | 0.400 | Dec 2010 | 0.290 | Dec 2011 | - | | 0.290 | 1.485 | 5.078 | |
| Operational Test & Evaluation | WR | OPTEVFOR/MCOTEA:Norfolk, VA/Quantico, VA | 5.255 | 1.700 | Dec 2010 | 1.890 | Dec 2011 | - | | 1.890 | 13.147 | 21.992 | |
| Live Fire Test & Evaluation | WR | NSWC:Carderock, MD | 41.363 | 2.500 | Dec 2010 | 4.650 | Dec 2011 | - | | 4.650 | 16.931 | 65.444 | |
| Subtotal | | | 49.521 | 4.600 | | 6.830 | | - | | 6.830 | 31.563 | 92.514 | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Program Management | C/CPFF | TBD:Washington, DC | 7.650 | 0.259 | Dec 2010 | 2.954 | Dec 2011 | - | | 2.954 | 14.556 | 25.419 | |
| Travel | Various | Navsea Travel:Washington, DC | 0.282 | 0.050 | Mar 2011 | 0.100 | Dec 2011 | - | | 0.100 | 0.300 | 0.732 | |
| Defense Acquisition Workforce | Various | Various:Various | 0.011 | - | | - | | - | | - | 0.000 | 0.011 | |
| Subtotal | | | 7.943 | 0.309 | | 3.054 | | - | | 3.054 | 14.856 | 26.162 | |

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i> | PROJECT 2465: <i>LHA(R) FLT Design and Total Ship Integration</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 2465 | | | | |
| LHA 6 Developmental Testing | 1 | 2010 | 1 | 2015 |
| LHA 6 Operational Testing | 1 | 2010 | 1 | 2015 |
| LHA 6 Vulnerability Assessment Report (VAR) | 1 | 2010 | 1 | 2015 |
| LHA 7 Contract Design | 1 | 2010 | 4 | 2014 |
| LHA 8 Capability Development Document (CDD) Update | 1 | 2011 | 1 | 2013 |
| LHA 8 Requirements Trade Studies | 1 | 2011 | 1 | 2013 |
| LHA 8 Preliminary Design/Concept Design | 1 | 2012 | 2 | 2014 |
| LHA 8 Milestone B | 2 | 2014 | 2 | 2014 |
| LHA 8 Developmental Testing | 2 | 2014 | 4 | 2016 |
| LHA 8 Operational Testing | 2 | 2014 | 4 | 2016 |
| LHA 8 Issue AP RFP | 3 | 2014 | 3 | 2014 |

UNCLASSIFIED

| | | | | | | | | | | | |
|---|----------------|----------------|---------------------|---|----------------------|----------------|----------------|--|----------------------------|-------------------------|-------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | | | | | | | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i> | | | | PROJECT 3108: <i>CVN 80 Total Ship Integration</i> | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| 3108: <i>CVN 80 Total Ship Integration</i> | - | - | - | - | - | 42.961 | 47.457 | 47.678 | 47.052 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Development and related testing of CVN78 Class aircraft carrier specific technologies, the infusion of the ship technology base into existing and future aircraft carriers, and the potential realization of subsystem design capabilities not currently feasible. This project also funds the Contract Design efforts for the CVN 80. This project transitions the minimum sustaining technologies required to address obsolescence, critical survivability shortfalls as identified in CVN 78 Class testing, future requirements, and technologies which did not mature in time to support the CVN 78 or CVN 79. All systems developed in this project have the potential to support emerging requirements and other promising system technologies for insertion into new aircraft carrier designs. The emphasis is directed toward developing ship hull, mechanical, propulsion, electrical, aviation, warfare systems, and combat support systems, sub-systems and components to maintain aircraft carrier affordability, manpower requirements, survivability, and operational capabilities and to meet the requirements of existing and pending regulations and statutes critical to the operation of future aircraft carriers. This project also encompasses those tasks required to support CVN 80 procurement, including, but not limited to engineering support, programmatic and program support, modeling and simulation, manpower and program related studies, and design support systems, such as the Integrated Digital Environment.

B. Accomplishments/Planned Programs (\$ in Millions)

N/A

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012 Base</u> | <u>FY 2012 OCO</u> | <u>FY 2012 Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To Complete</u> | <u>Total Cost</u> |
|--|----------------|----------------|---------------------|--------------------|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| • 200100: <i>Carrier Replacement Program</i> | 1,219.927 | 2,639.569 | 497.798 | 0.000 | 497.798 | 1,999.385 | 2,148.395 | 3,545.752 | 2,503.034 | Continuing | Continuing |
| • 0603512N: <i>2208, 4004, 10C098</i> | 149.859 | 83.619 | 50.235 | 0.000 | 50.235 | 41.495 | 40.884 | 41.276 | 42.041 | Continuing | Continuing |
| • 0603570N: <i>CVN 21 (PU 2692)</i> | 82.232 | 66.643 | 65.808 | 0.000 | 65.808 | 62.100 | 57.398 | 56.409 | 0.000 | Continuing | Continuing |

D. Acquisition Strategy

The CVN 80 is the third ship of the CVN 78 Class of aircraft carriers designed to replace USS ENTERPRISE and the ships of the NIMITZ Class Carriers. The CVN 80 is a modified repeat of the CVN 78, which features a new nuclear propulsion and electrical generation/distribution system, electromagnetic aircraft launching system, advanced arresting gear system, electric auxiliaries, warfare system improvements, survivability enhancements, improved weapons handling, and improved aircraft servicing. These design features will result in lower manpower and total ownership costs as compared to the NIMITZ Class. Additionally, the following war-

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy DATE: February 2011

| APPROPRIATION/BUDGET ACTIVITY | R-1 ITEM NOMENCLATURE | PROJECT |
|---|---|--|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i> | 3108: <i>CVN 80 Total Ship Integration</i> |

fighting benefits will be realized: increased sortie generation rate, improved ship self defense capability, increased launch and recovery capability/flexibility, increased operational availability, and increased flexibility to support future upgrades.

CVN 80 will use late integration of Government-Furnished Equipment to provide the latest combat system and C4I suite applications within the planned system baseline. CVN 80 will improve upon processes used on CVN 78 to gain efficiencies during the CVN 80 Construction Preparation and Construction periods.

E. Performance Metrics

Successfully complete the following tasks:

- system development efforts for designated new and modified shipboard system, including developmental test and evaluation documents.
- design related activities associated with integration of new and modified shipboard systems into the ship, including developmental test and evaluation documentation.
- system design and analysis studies.
- support design integration and analysis.
- support feasibility and tradeoff studies on new and modified shipboard systems, technologies, and proposed modifications. Studies shall include requirements and engineering analysis; identification of subsystem, integration, and logistics impacts; cost estimates; analysis of construction schedule impacts; and conduct/support of shipchecks.
- Manpower Workload Analysis associated with design and policy activities, and with integration of new and modified system/equipment.
- development of multiple Business Case Analyses (BCAs) that demonstrate technology, process, requirements and/or infrastructure improvements that will reduce the manhours (or equivalent material costs) for CVN 80 Construction.

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i> | PROJECT 3108: <i>CVN 80 Total Ship Integration</i> |
|---|---|--|

| Fiscal Year | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | 2014 | | | | 2015 | | | | 2016 | | | | |
|--|------|---|---|---|------|------------------|---|---|--------------------|-------------------|---|---|------|------------------|---|---|------|---|---|---|------|---|---|---|------|---|---|---|--|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | |
| Acquisition Milestones | | | | | | | | | CVN 79 DAB PR △ | | | | | | | | | | | | | | | | | | | | |
| Propulsion Plant | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EMALS | | | | | | | | | | SDD Complete △ | | | | | | | | | | | | | | | | | | | |
| Advanced Arresting Gear | | | | | | Conf Review △ | | | | TRR 2 △ | | | | | | | | | | | | | | | | | | | |
| Test & Evaluation Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Integrated Test Phases | ◇ | | | | | | | | | IT-1 | | | | | | | | | | | | | | | | | | | |
| Developmental Test Reports | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operational Assessment Reports | | | | | | | | | | OAR1 (IT-1) △ | | | | OAR2 (IT-1) △ | | | | | | | | | | | | | | | |
| Assessment of Operational Test Readiness | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operational Test Readiness Review | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contract Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| IPPD Contract | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CP Contract | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Construction Contract | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Full Funding (SCN) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

UNCLASSIFIED

UNCLASSIFIED

| | | | | | | | | | | | |
|---|----------------|----------------|---------------------|---|----------------------|----------------|----------------|--|----------------|-------------------------|-------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | | | | | | | DATE: February 2011 | | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i> | | | | PROJECT 3133: <i>Sea Base to Shore Connectors (Contract Des)</i> | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| 3133: <i>Sea Base to Shore Connectors (Contract Des)</i> | 33.853 | 20.349 | 2.468 | - | 2.468 | 0.882 | 0.078 | 3.812 | 3.632 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Ship to Shore Connector (SSC) - This project provides the Preliminary and Contract design and Class test efforts for the SSC Program. The SSC program provides the capability to rapidly move assault forces within the littoral operational environment to accomplish Unified Command Plan (UCP) missions and ensures the Joint Force Commander's (JFCDR's) ability to conduct amphibious operations and operate over the high water mark, including movement over ice, mud, rivers, swamps, and marshes. This project provides for the Systems Development and Demonstration package required for the solicitation for Detail Design and Construction and test of the initial article. Class Test and evaluation of components and systems will also be completed under this project. SSC provides the functional replacement for the LCAC Class of ships, which begin reaching extended service life in 2015. This project also encompasses those tasks required to develop the contract and technical data package necessary to support the procurement of the lead SSC craft, including, but not limited to engineering support, programmatic and program support, logistics support, manpower and program related studies. The lead craft is funded in RDT&E under this PE, Project 3137.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|--|----------------|----------------|----------------|
| Title: Sea Base to Shore Connectors (Contract Des) | 33.853 | 20.349 | 2.468 |
| Articles: | 0 | 0 | 0 |
| FY 2010 Accomplishments: Completed development and implementation of initiatives in preparation for the award of the Detail Design and Construction Contract in FY11. Continued Class Test and Evaluation program. Developed contracts data package for the test and training craft award in FY11. | | | |
| FY 2011 Plans: Award Detail Design and Construction Contract for lead craft. Continuation of Class Test and Evaluation program. Complete Preliminary/Contract Design | | | |
| FY 2012 Plans: Continuation of Class Test and Evaluation program. | | | |
| Accomplishments/Planned Programs Subtotals | 33.853 | 20.349 | 2.468 |

UNCLASSIFIED

| | |
|--|----------------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | DATE: February 2011 |
|--|----------------------------|

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i> | PROJECT 3133: <i>Sea Base to Shore Connectors (Contract Des)</i> |
|---|---|--|

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> <u>Base</u> | <u>FY 2012</u> <u>OCO</u> | <u>FY 2012</u> <u>Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
|---|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| • RDT&E 0604567N: <i>SSC Detail Design/Construction</i> | 0.000 | 80.463 | 92.466 | 0.000 | 92.466 | 81.085 | 27.789 | 3.314 | 3.102 | Continuing | Continuing |
| • SCN 5112: <i>SSC Construction</i> | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 76.358 | 130.880 | 290.235 | Continuing | Continuing |

D. Acquisition Strategy

The lead craft will be procured and constructed with RDT&E funds. The lead craft Detail Design contract will include an option for construction.

E. Performance Metrics

Begin Test and Evaluation Master Plan (TEMP) updates. Begin Developmental Testing Phase B and Operational Testing Phase B.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i> | PROJECT 3133: <i>Sea Base to Shore Connectors (Contract Des)</i> |
|---|---|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Ship Design | C/CPFF | CSC:Washington, DC | 8.975 | 5.355 | Oct 2010 | - | | - | | - | 0.000 | 14.330 | |
| Preliminary/Contract Design | C/FP | Various:Various | 31.140 | - | | - | | - | | - | 0.000 | 31.140 | |
| System Engineering | Various | Various:Various | 6.241 | - | | - | | - | | - | 0.000 | 6.241 | |
| Subtotal | | | 46.356 | 5.355 | | - | | - | | - | 0.000 | 51.711 | |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Developmental Support | WR | NSWC PCD:Panama City, FL | 4.244 | 0.392 | Oct 2010 | - | | - | | - | 0.000 | 4.636 | |
| Software Development | C/FP | Various:Various | 2.219 | - | | - | | - | | - | 0.000 | 2.219 | |
| Integrated Logistics Support | WR | NSWC:Various | 1.692 | 1.673 | Oct 2010 | - | | - | | - | 0.000 | 3.365 | |
| Studies & Analyses | TBD | Various:Various | 3.619 | 2.489 | Nov 2010 | 0.154 | Oct 2011 | - | | 0.154 | Continuing | Continuing | Continuing |
| Subtotal | | | 11.774 | 4.554 | | 0.154 | | - | | 0.154 | | | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Developmental Test & Evaluation | Various | Various:Various | 0.033 | - | | - | | - | | - | 0.000 | 0.033 | |
| Operational Test & Evaluation | Various | Various:Various | 1.118 | 0.483 | Oct 2010 | 0.393 | Oct 2011 | - | | 0.393 | Continuing | Continuing | Continuing |
| Live Fire Test & Evaluation | Various | Various:Various | 2.153 | 1.681 | Oct 2010 | 1.237 | Oct 2011 | - | | 1.237 | Continuing | Continuing | Continuing |
| Subtotal | | | 3.304 | 2.164 | | 1.630 | | - | | 1.630 | | | |

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

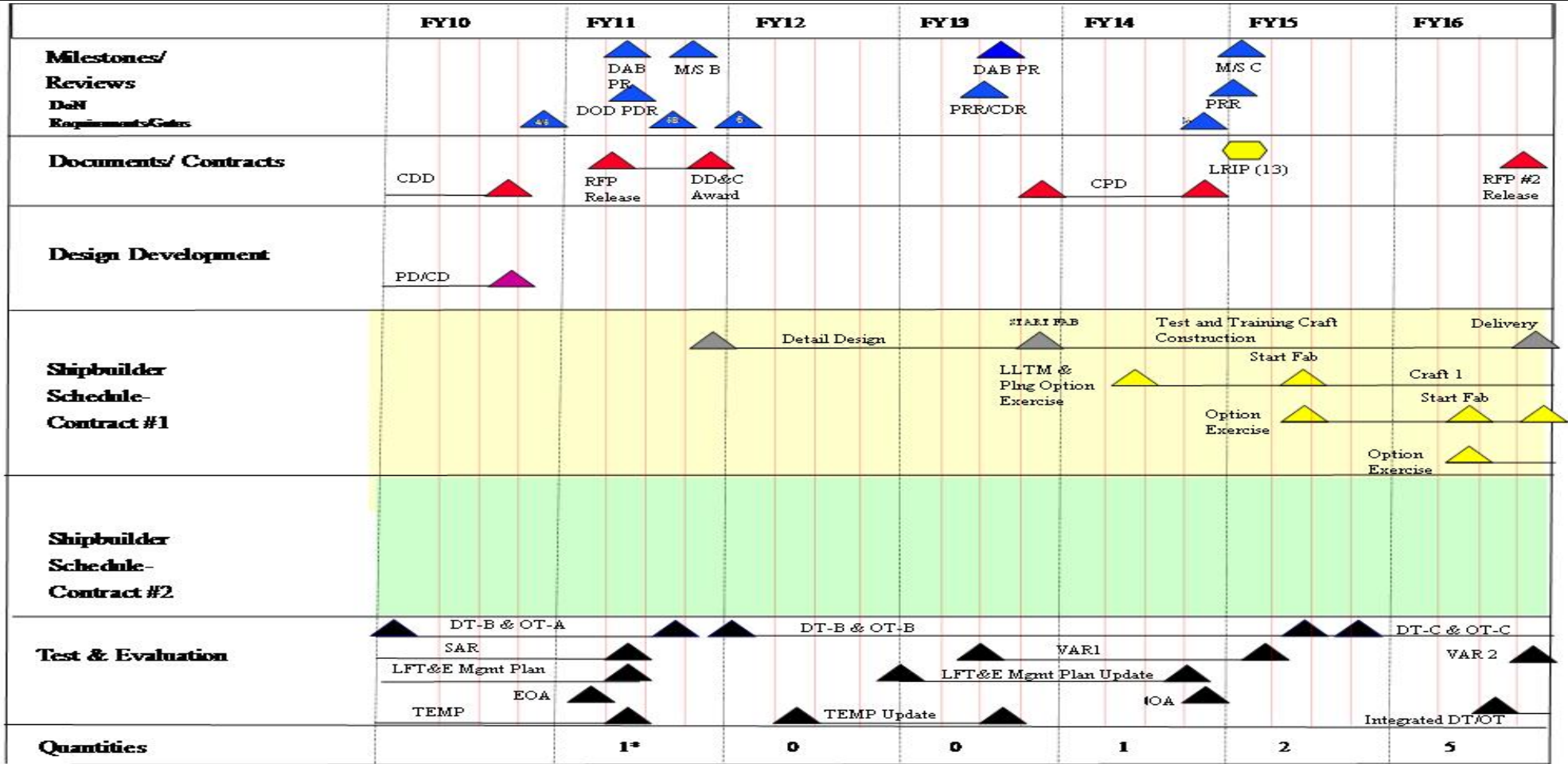
1319: Research, Development, Test & Evaluation, Navy
BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

PE 0604567N: Ship Contract Design/ Live Fire T&E

PROJECT

3133: Sea Base to Shore Connectors (Contract Des)



* FY11 Craft is funded with R&D

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i> | PROJECT 3133: <i>Sea Base to Shore Connectors (Contract Des)</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 3133 | | | | |
| Capability Development Document (CDD) | 1 | 2010 | 3 | 2010 |
| Preliminary Design/Contract Design (PD/CD) | 1 | 2010 | 3 | 2010 |
| Preliminary Design Reviews (PDR) | 1 | 2010 | 2 | 2011 |
| Development Test/Operational Test A (DT/OT-A) | 1 | 2010 | 3 | 2011 |
| T&E Program Development | 1 | 2010 | 2 | 2014 |
| Live Fire Test & Evaluation (LFT&E) Mgmt Plan | 1 | 2010 | 4 | 2014 |
| Survivability/Vulnerability Assessment Report (SAR/VAR) | 1 | 2010 | 4 | 2016 |
| Defense Acquisition Board (DAB) Reviews | 2 | 2011 | 4 | 2016 |
| Early Operational Assessment (EOA) | 1 | 2011 | 1 | 2011 |
| Detail Design & Construction (DD&C) Award | 4 | 2011 | 4 | 2011 |
| Acquisition Milestone B | 4 | 2011 | 4 | 2011 |
| Development Test/Operational Test B (DT/OT-B) | 1 | 2012 | 2 | 2015 |
| Critical Design Review (CDR) | 3 | 2013 | 3 | 2013 |
| Capabilities Production Document (CPD) | 4 | 2013 | 4 | 2014 |
| Operational Assessment (OA) | 4 | 2014 | 4 | 2014 |
| Low Rate Initial Production (LRIP) Approval | 1 | 2015 | 1 | 2015 |
| Acquisition Milestone C | 1 | 2015 | 1 | 2015 |
| Development Test/Operational Test C (DT/OT-C) | 4 | 2015 | 4 | 2016 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i> | PROJECT 3137: <i>SSC Construction</i> |
|---|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|-------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 3137: <i>SSC Construction</i> | - | 80.463 | 92.466 | - | 92.466 | 81.085 | 27.789 | 3.314 | 3.102 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

This project funds the Ship to Shore Connector (SSC) Engineering & Manufacturing Development phase which includes Detail Design and Construction of the Test and Training Craft, Integrated Logistics Support (ILS), Government Furnished Equipment (GFE), Program support, and Outfitting and Post Delivery. The SSC program provides the capability to rapidly move assault forces within the littoral operational environment to accomplish Unified Command Plan (UCP) missions, and ensures the Joint Force Commander's (JFCDR's) ability to conduct amphibious operations and operate over the high water mark, including movement over ice, mud, rivers, swamps and marshes. The lead craft will be maintained as a test and training platform throughout its life cycle. The SSC program provides the functional replacement for the LCAC Class of ships, which begin reaching extended service life in 2015.

Plans:

TOTAL 42.7 (FY12 18.1)

Basic Construction:

TOTAL 174.4 (FY12 45.4)

Change Orders:

TOTAL 9.3 (FY12 3.4)

Electronics

TOTAL 0.2 (FY12 0.1)

HME:

TOTAL 19.3 (FY12 9.1)

OTHER SUPPORT:

TOTAL 41.1 (FY12 16.4)

POST DELIVERY/OUTFITTING:

TOTAL 1.2 (FY12 0.0)

Ship Total:

TOTAL 288.2(FY12 92.5)

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|--------------------------------|---------|---------|---------|
| Title: SSC Construction | - | 80.463 | 92.466 |
| Articles: | | 1 | 0 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i> | PROJECT 3137: <i>SSC Construction</i> |
|---|---|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|--|---------|---------|---------|
| <p><i>FY 2011 Plans:</i> Begin Detail Design and Construction efforts for test and training craft, including but not limited software development, construction, startup and procurement of Contractor Furnished Equipment (CFE) material. Completion of Milestone B.</p> <p><i>FY 2012 Plans:</i> Continue Detail Design and Construction efforts for test and training craft, including but not limited software development, construction, startup and procurement of Contractor Furnished Equipment (CFE) material</p> | | | |
| Accomplishments/Planned Programs Subtotals | - | 80.463 | 92.466 |

C. Other Program Funding Summary (\$ in Millions)

| Line Item | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|-------------------------------------|---------|---------|-----------------|----------------|------------------|---------|---------|---------|---------|---------------------|------------|
| • RDT&E 0604567N: <i>RDT&E</i> | 33.853 | 20.349 | 2.468 | 0.000 | 2.468 | 0.882 | 0.078 | 3.812 | 3.632 | Continuing | Continuing |
| • SCN 5112: <i>SSC Construction</i> | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 76.358 | 130.880 | 290.235 | Continuing | Continuing |

D. Acquisition Strategy

The test and training craft will be procured and constructed with RDT&E funds. The test and training craft Detail Design and Construction contract will include an option for construction of follow crafts to be procured with SCN funds.

E. Performance Metrics

Award Detail Design and Construction contract for Test and Training Craft with options for follow SCN crafts.
Deliver Test and Training Craft.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i> | PROJECT 3137: <i>SSC Construction</i> |
|---|---|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Ship Design | C/CPFF | CSC:Washington, DC | - | 1.785 | May 2011 | 7.070 | Oct 2011 | - | | 7.070 | Continuing | Continuing | Continuing |
| Test & Trng Craft Detail Design | C/FPIF | TBD:TBD | - | 24.600 | Aug 2011 | 18.100 | Oct 2011 | - | | 18.100 | Continuing | Continuing | Continuing |
| Test & Trng Craft Construction | C/FPIF | TBD:TBD | - | 45.204 | Aug 2011 | 45.420 | Oct 2011 | - | | 45.420 | Continuing | Continuing | Continuing |
| Government Furnished Equipment (GFE) | C/FPIF | TBD:TBD | - | 0.100 | Aug 2011 | 0.100 | Oct 2011 | - | | 0.100 | Continuing | Continuing | Continuing |
| Change Orders | C/FPIF | TBD:TBD | - | 0.600 | Aug 2011 | 3.400 | Oct 2011 | - | | 3.400 | Continuing | Continuing | Continuing |
| Subtotal | | | - | 72.289 | | 74.090 | | - | | 74.090 | | | |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Integrated Logistics Support | WR | NSWC:Various | - | 0.332 | Jul 2011 | 2.970 | Oct 2011 | - | | 2.970 | Continuing | Continuing | Continuing |
| Studies and Analysis | TBD | Various:Various | - | 5.030 | Jul 2011 | 5.779 | Oct 2011 | - | | 5.779 | Continuing | Continuing | Continuing |
| Subtotal | | | - | 5.362 | | 8.749 | | - | | 8.749 | | | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Craft Construction Test Program | Various | Various:Various | - | 0.161 | Aug 2011 | 1.957 | Oct 2011 | - | | 1.957 | Continuing | Continuing | Continuing |
| Subtotal | | | - | 0.161 | | 1.957 | | - | | 1.957 | | | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

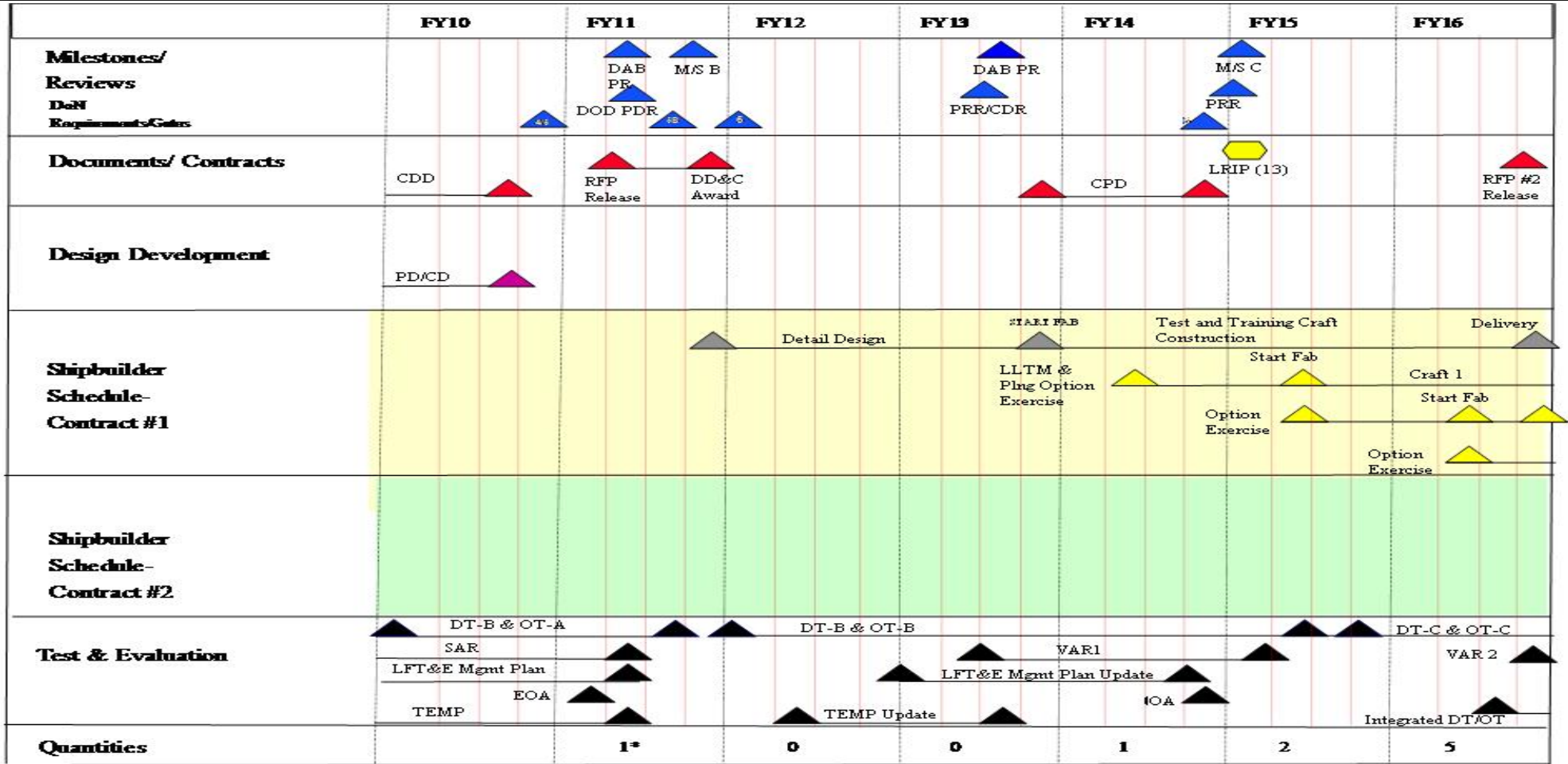
1319: Research, Development, Test & Evaluation, Navy
BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

PE 0604567N: Ship Contract Design/ Live Fire T&E

PROJECT

3137: SSC Construction



* FY11 Craft is funded with R&D

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i> | PROJECT 3137: <i>SSC Construction</i> |
|---|---|---|

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| <i>Proj 3137</i> | | | | |
| Defense Acquisition Board (DAB) Reviews | 2 | 2011 | 4 | 2016 |
| Test and Training Craft Detail Design | 4 | 2011 | 4 | 2013 |
| Acquisition Milestone B | 4 | 2011 | 4 | 2011 |
| Critical Design Review (CDR) | 3 | 2013 | 3 | 2013 |
| Production Readiness Review #1 (PRR) | 3 | 2013 | 3 | 2013 |
| Capabilities Production Document (CPD) | 4 | 2013 | 4 | 2014 |
| Test and Training Craft Construction | 4 | 2013 | 4 | 2016 |
| Low Rate Initial Production (LRIP) Approval | 1 | 2015 | 1 | 2015 |
| Production Readiness Review #2 (PRR) | 1 | 2015 | 1 | 2015 |
| Acquisition Milestone C | 1 | 2015 | 1 | 2015 |
| Test and Training Craft Delivery | 4 | 2016 | 4 | 2016 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i> | PROJECT 3179: <i>CVN-79 Total Ship Integration</i> |
|---|---|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 3179: <i>CVN-79 Total Ship Integration</i> | 35.723 | 21.324 | 19.176 | - | 19.176 | 14.697 | 14.804 | 15.141 | 15.415 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Development and related testing of CVN 78 Class aircraft carrier specific technologies, the infusion of the ship technology base into existing and future aircraft carriers, and the potential realization of subsystem design capabilities not currently feasible. This project also funds the Contract Design efforts for the CVN 79. This project transitions the minimum sustaining technologies required to address obsolescence, critical survivability shortfalls as identified in CVN 78 Class testing, future requirements, and technologies which did not mature in time to support the CVN 78. All systems developed in this project have the potential to support emerging requirements and other promising systems technologies for insertion into new aircraft carrier designs. The emphasis is directed toward developing ship hull, mechanical, propulsion, electrical, aviation, warfare systems, and combat support systems, sub-systems and components to maintain aircraft carrier affordability, manpower requirements, survivability, and operational capabilities and to meet the requirements of existing and pending regulations and statutes critical to the operation of future aircraft carriers. This project also encompasses those tasks required to develop the contract data package necessary to support CVN 79 procurement, including, but not limited to engineering support, programmatic and program support, logistics support, modeling and simulation, manpower and program related studies, and design support systems, such as the Integrated Digital Environment.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|--|---------|---------|---------|
| Title: CVN-79 Total Ship Integration | 35.723 | 21.324 | 19.176 |
| Articles: | 0 | 0 | 0 |
| FY 2010 Accomplishments: | | | |
| Plans include further NGSB-NN development and submission of Business Cost Analysis (BCA) of items such as Aircraft Elevator Hoist redesign, navigation displays, side loading of arresting gear, valves, Advanced Weapons Elevator shock events, pipe testing, deletion of Captain's Gig, main turbine generator refurbishment, deletion of SPN-46, development of a shock machine sand standardized shock enclosures, and utilization of ship's storage to reduce the cost of CVN 79. In addition, the program is executing CVN 78 Class shock, vibration and Electromagnetic Interference (EMI) analysis, obsolescence analysis, and Human System Integration (HSI) efforts. | | | |
| FY 2011 Plans: | | | |
| Plans include further NGSB-NN development and submission of BCA items to reduce CVN 79 acquisition cost. Further development and implementation of previous and new items yet to be determined will occur during the fiscal year. Some of the efforts that are being considered include, but are not limited to, Tandem Arc Welding, Machinery Control & Monitoring System reduction, Final Assembly Platen rolling roof covers, Steel Fabrication nesting improvements, Cable Pulling process enhancements, Pipe Shop consolidation, Sea Chest produce ability, other spare circuit breaker reductions, and Weapons | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i> | PROJECT 3179: <i>CVN-79 Total Ship Integration</i> |
|---|---|--|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| Elevator door redesign. Additionally, ongoing efforts will be continued, including CVN 78 Class shock, vibration and EMI analysis, obsolescence analysis, and HSI. | | | |
| <i>FY 2012 Plans:</i> Plans include further NGSB-NN development and submission of BCA items to reduce CVN 79 acquisition cost. Further development and implementation of previous and new items yet to be determined will occur during the fiscal year. Additionally, the continuation of on-going efforts, including CVN 78 Class shock, vibration and EMI analysis, obsolescence analysis, and HSI are planned. | | | |
| Accomplishments/Planned Programs Subtotals | 35.723 | 21.324 | 19.176 |

C. Other Program Funding Summary (\$ in Millions)

| Line Item | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|-----------|-----------|-----------------|----------------|------------------|-----------|-----------|-----------|-----------|---------------------|------------|
| • 0605312N: <i>2208, 4004, 10C098</i> | 149.859 | 83.619 | 50.235 | 0.000 | 50.235 | 41.495 | 40.884 | 41.276 | 42.041 | Continuing | Continuing |
| • 0603570N: <i>CVN 21 (PU 2692)</i> | 82.232 | 666.643 | 65.808 | 0.000 | 65.808 | 62.100 | 57.398 | 56.409 | 0.000 | Continuing | Continuing |
| • 200100: <i>Carrier Replacement Program</i> | 1,219.927 | 2,639.569 | 497.798 | 0.000 | 497.798 | 1,999.385 | 2,148.395 | 3,545.752 | 2,503.034 | Continuing | Continuing |

D. Acquisition Strategy

The CVN 80 is the third ship of the CVN 78 Class of aircraft carriers designed to replace USS ENTERPRISE and the ships of the NIMITZ Class Carriers. CVN 79 is a modified repeat of the CVN 78, which features the new nuclear propulsion and electrical generation / distribution system, electromagnetic aircraft launch system, advanced arresting gear system, electric auxiliaries, warfare system improvements, survivability enhancements, improved weapons handling, and improved aircraft servicing. These design features will result in lower manpower and total ownership costs as compared to the NIMITZ Class. Additionally, the following war fighting benefits will be realized: increased sortie generation rate, improved ship self defense capability, increased launch and recovery capability / flexibility, increased operational availability, and increased flexibility to support future upgrades. CVN 79 will use late integration of Government-Furnished Equipment to provide the latest combat system and C4I suite applications within the planned system baseline. CVN 79 will improve upon processes used on CVN 78 to gain efficiencies during the CVN 79 Construction Preparation and Construction periods.

E. Performance Metrics

Successfully complete system development efforts for designated new and modified shipboard system, including developmental test and evaluation documents. Successfully complete design related activities associated with integration of new and modified shipboard systems into the ship, including developmental test and evaluation documentation. Successfully perform system design and analysis studies. Successfully support design integration and analysis. Successfully complete

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i> | PROJECT 3179: <i>CVN-79 Total Ship Integration</i> |
| <p>or support feasibility and tradeoff studies on new and modified shipboard systems, technologies, and proposed modifications. Studies shall include requirements and engineering analysis; identification of subsystem, integration, and logistics impacts; cost estimates; analysis of construction schedule impacts; and conduct/ support of shipchecks. Successfully provide Manpower Workload Analysis associated with design and policy activities, and with integration of new and modified system/equipment. Successfully complete the development of multiple Business Case Analyses (BCAs) that demonstrate technology, process, requirements and/or infrastructure improvements that will reduce the manhours (or equivalent material costs) for CVN 79 Construction.</p> | | |

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i> | PROJECT 3179: <i>CVN-79 Total Ship Integration</i> |
|---|---|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | Target Value of Contract |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | |
| Total Ship Integration | C/CPAF | NGSB-NN:VA | 50.007 | 16.155 | Dec 2010 | 12.347 | Dec 2011 | - | | 12.347 | Continuing | Continuing | Continuing |
| Total Ship Integration | WR | NSWC Carderock:MD | 9.466 | 0.027 | Oct 2010 | 1.091 | Oct 2011 | - | | 1.091 | Continuing | Continuing | Continuing |
| Total Ship Integration | WR | NSWC Dahlgren:VA | 7.023 | 0.501 | Oct 2010 | 1.052 | Oct 2011 | - | | 1.052 | Continuing | Continuing | Continuing |
| Total Ship Integration | WR | NAWCAD Pax River:MD | 2.455 | 0.259 | Oct 2010 | 0.892 | Oct 2011 | - | | 0.892 | Continuing | Continuing | Continuing |
| Total Ship Integration | WR | SPAWAR:SD | 2.706 | - | Oct 2010 | 0.496 | Oct 2011 | - | | 0.496 | Continuing | Continuing | Continuing |
| Total Ship Integration | C/CPFF | NAVSEA SEAPORT:DC | 12.539 | 3.466 | Nov 2010 | 1.323 | Nov 2011 | - | | 1.323 | Continuing | Continuing | Continuing |
| Total Ship Integration | C/CPAF | Raytheon:MA | 3.862 | 0.666 | Dec 2010 | 1.558 | Dec 2011 | - | | 1.558 | Continuing | Continuing | Continuing |
| Total Ship Integration | WR | SSC Charleston:SC | 0.233 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Total Ship Integration | C/CPFF | SAIC:VA | 1.445 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Developmental Test & Evaluation | WR | NSWC Carderock:MD | 4.341 | 0.250 | Oct 2010 | 0.236 | Oct 2011 | - | | 0.236 | Continuing | Continuing | Continuing |
| Developmental Test & Evaluation | WR | NUWC Newport:RI | 0.123 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Operational Test & Evaluation | WR | COMOPTEVFOR:VA | - | - | | 0.181 | Oct 2011 | - | | 0.181 | Continuing | Continuing | Continuing |
| Subtotal | | | 94.200 | 21.324 | | 19.176 | | - | | 19.176 | | | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | Target Value of Contract |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | |
| Defense Acquisition Workforce | Various | Various: Mis | 0.181 | - | | - | | - | | - | 0.000 | 0.181 | |
| Subtotal | | | 0.181 | - | | - | | - | | - | 0.000 | 0.181 | |

| | | | Total Prior Years Cost | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|--|--|------------------------|---------|--|--------------|--|-------------|--|---------------|------------------|------------|--------------------------|
| Project Cost Totals | | | 94.381 | 21.324 | | 19.176 | | - | | 19.176 | | | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i> | PROJECT 3179: <i>CVN-79 Total Ship Integration</i> |
|---|---|--|

| Fiscal Year | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | 2014 | | | | 2015 | | | | 2016 | | | |
|--|------|---|---|---|------|------------------|---|--------------------|-------------------|---|---|---|---------------------------------|---|---|---|------------------|---|---|---|------|---|---|---|-------------------------------|---|---|---|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Acquisition Milestones | | | | | | | | CVN 79 DAB PR △ | | | | | | | | | | | | | | | | | | | | |
| Propulsion Plant | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EMALS | | | | | | | | | SDD Complete △ | | | | | | | | | | | | | | | | | | | |
| Advanced Arresting Gear | | | | | | Conf Review △ | | | TRR 1 △ | | | | TRR 2 △ | | | | | | | | | | | | | | | |
| Test & Evaluation Milestones | | | | | | | | | | | | | IT-1 | | | | | | | | | | | | IT-2 | | | |
| Integrated Test Phases | ◇ | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Developmental Test Reports | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operational Assessment Reports | | | | | | | | | OAR1 (IT-1) △ | | | | | | | | OAR2 (IT-1) △ | | | | | | | | | | | |
| Assessment of Operational Test Readiness | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operational Test Readiness Review | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contract Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| IPPD Contract | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CP Contract | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Construction Contract | | | | | | | | | | | | | CVN 80 IPPD Contract Award △ | | | | | | | | | | | | CVN 80 CP Contract Award △ | | | |
| Full Funding (SCN) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i> | PROJECT 3179: <i>CVN-79 Total Ship Integration</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 3179 | | | | |
| CVN 79 DAB PR | 1 | 2012 | 1 | 2012 |
| Propulsion Plant | 1 | 2010 | 4 | 2016 |
| EMALS SDD Complete | 3 | 2012 | 3 | 2012 |
| Advanced Arresting Gear (AAG) TRR 1 (IT) | 1 | 2010 | 1 | 2010 |
| AAG Config Review | 1 | 2011 | 1 | 2011 |
| AAG TRR 2 (IT) | 3 | 2011 | 3 | 2011 |
| Integrated Test 1 (IT-1) | 1 | 2010 | 4 | 2014 |
| Integrated Test 2 (IT-2) | 4 | 2014 | 3 | 2016 |
| Integrated Test 3 (IT-3) | 3 | 2016 | 4 | 2016 |
| Operational Assessment Report 1 (IT-1) | 2 | 2012 | 2 | 2012 |
| Operational Assessment Report 2 (IT-1) | 2 | 2013 | 2 | 2013 |
| Developmental Test Report (IT-1) | 1 | 2015 | 1 | 2015 |
| Operational Assessment Report 3 (IT-1) | 1 | 2015 | 1 | 2015 |
| Developmental Test Report (IT-2) | 4 | 2016 | 4 | 2016 |
| Operational Assessment Report (IT-2) | 4 | 2016 | 4 | 2016 |
| Assessment of Operational Test Readiness - Phase C1 (AOTRC1) | 4 | 2016 | 4 | 2016 |
| Operational Test Readiness Review - Phase C1 (OTRRC1) | 4 | 2016 | 4 | 2016 |
| CVN 80 IPPD Contract Award | 1 | 2013 | 1 | 2013 |
| CVN 79 Construction Contract Award | 1 | 2013 | 1 | 2013 |
| CVN 80 CP Contract Award | 1 | 2016 | 1 | 2016 |
| CVN 78 Ship Delivery | 4 | 2015 | 4 | 2015 |

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i> | PROJECT 3179: <i>CVN-79 Total Ship Integration</i> |

| Events by Sub Project | Start | | End | |
|-------------------------|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| CVN 79 SCN Full Funding | 1 | 2013 | 4 | 2016 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i> | PROJECT 4007: <i>CVN 21 LFT&E</i> |
|---|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|-------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 4007: <i>CVN 21 LFT&E</i> | 2.271 | 2.703 | 1.645 | - | 1.645 | 1.177 | 1.172 | 1.197 | 1.219 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

This project encompasses Live Fire Test and Evaluation (LFT&E) efforts for the CVN 78 Class. Title 10, US Code, Section 2366, CVN 21 Operational Requirements Document (ORD) and the CVN 21 Test and Evaluation Master Plan (TEMP), prescribe requirements for LFT&E. The purpose of LFT&E is to evaluate weapons and weapons systems in a realistic combat environment and to identify any mission threatening vulnerabilities early in the development process when there is time to take corrective action. The CVN 21 LFT&E Management Plan details the efforts, through testing and engineering analyses, to address potential design vulnerabilities.

The unit cost of the CVN 78 Class and its shipboard systems preclude consideration of destructive testing of a full-up CVN 78 Class hull with threats of the type that might be expected in combat. Consequently, the Navy must rely on other means to determine that CVN 78 Class ships will be able to survive and carry out its missions in the face of the threats identified in the CVN 21 System Threat Assessment Report. The Vulnerability Assessment Report (VAR) is the key document that addresses these issues for the CVN 78 LFT&E Program.

The LFT&E strategy for the CVN 78 Class accounts for the uncertainty in its design features. The strategy assumes that as the program progresses through the stages of ship design, prior to the award of the construction contract, descriptive detail of CVN 78 will increase and so will the ability to evaluate its survivability. The VAR 3 was officially completed in the summer of 2007. The VAR 3 Update is scheduled to be completed in FY 12 and will incorporate the CVN 78 design drawings.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| Title: CVN 21 LFT&E | 2.271 | 2.703 | 1.645 |
| Articles: | 0 | 0 | 0 |
| FY 2010 Accomplishments: Continued developing CVN 78 Class Management Plan Revision B. Continued VAR 4 efforts with susceptibility modeling and simulation (M&S) and development of a CVN 78 model for the Ship Vulnerability Model (SVM). Completed analyses of Dynamic System Mechanics Advanced Simulation (DYSMAS) Verification, Validation and Accreditation (VV&A). Continued susceptibility modeling of new and emerging threats. Conducted Live Fire Test and Evaluation (LFT&E) surrogate tests of selected CVN 78 survivability features. | | | |
| FY 2011 Plans: Complete development of CVN 78 Class Management Plan Revision B and route for signature. Complete development of a CVN 78 model in SVM for VAR 4 efforts. Begin the Damage Based Engineering Analyses (DSBEA) for VAR 4. Complete documentation of DYSMAS VV&A and submit for accreditation. Complete susceptibility modeling for shotlines to be used in | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i> | PROJECT 4007: <i>CVN 21 LFT&E</i> |
|---|---|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| VAR 4/DSBEA effort. Perform analyses with Fire and Smoke Simulator (FSSIM) for DSBEA. Conduct LFT&E surrogate tests of selected CVN 78 survivability features. | | | |
| <i>FY 2012 Plans:</i> Continue SVM analyses and DSBEA's for VAR 4. Begin writing sections for VAR 4. Complete surrogate tests and documentation of selected CVN 78 survivability features. Commence update of LFT&E Management Plan by specifically addressing any changes to strategy for CVN 79 / CVN 80. | | | |
| Accomplishments/Planned Programs Subtotals | 2.271 | 2.703 | 1.645 |

C. Other Program Funding Summary (\$ in Millions)

| Line Item | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|-----------|-----------|-----------------|----------------|------------------|-----------|-----------|-----------|-----------|---------------------|------------|
| • 200100: <i>Carrier Replacement Program</i> | 1,219.927 | 2,639.569 | 497.798 | 0.000 | 497.798 | 1,999.385 | 2,148.395 | 3,545.752 | 2,503.034 | Continuing | Continuing |
| • 0603570N: <i>CVN 21 (PU 2692)</i> | 82.232 | 66.643 | 65.808 | 0.000 | 65.808 | 62.100 | 57.398 | 56.409 | 0.000 | Continuing | Continuing |
| • 0603512N: <i>2208, 4004, 10C098</i> | 149.859 | 83.619 | 50.235 | 0.000 | 50.235 | 41.495 | 40.884 | 41.276 | 42.041 | Continuing | Continuing |

D. Acquisition Strategy

The CVN 78 will be the first ship of the CVN 78 Class of aircraft carriers designed to replace USS ENTERPRISE and the ships of the NIMITZ Class. The CVN 78 will feature a new nuclear propulsion and electrical generation/distribution system, new electromagnetic aircraft launching system, advanced arresting gear system, all electric auxiliaries, warfare system improvements, survivability enhancements, improved weapons handling, and improved aircraft servicing. These design features will result in lower manpower and total ownership costs as compared to the NIMITZ Class. Additionally, the following war fighting benefits will be realized: increased sortie generation rate, improved ship self defense capability, increased launch and recovery capability/flexibility, increased operational availability, and increased flexibility to support future upgrades.

E. Performance Metrics

Successfully complete CVN 78 fire test effort in support of magazine fire protection system, AFFF system and EMALS trough fire protection. Complete update of the LFT&E Management Plan from Rev A to Rev B. Successfully complete LFT&E surrogate test to any new and emerging threats identified by ONI.

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i> | PROJECT 4007: <i>CVN 21 LFT&E</i> |
|---|---|---|

| Fiscal Year | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | 2014 | | | | 2015 | | | | 2016 | | | |
|--|------|---|---|---|------|------------------|---|--------------------|-------------------|---|---|--|------|-------------|------------------|---|------|---|---|--------------------|----------------------------------|---|------|---|------------------------------|----------------|------|---|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Acquisition Milestones | | | | | | | | CVN 79 DAB PR △ | | | | | | | | | | | | | | | | | | | | |
| Propulsion Plant | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EMALS | | | | | | | | | SDD Complete △ | | | | | | | | | | | | | | | | | | | |
| Advanced Arresting Gear | | | | | | Conf Review △ | | | TRR 1 △ | | | TRR 2 △ | | | | | | | | | | | | | | | | |
| Test & Evaluation Milestones | | | | | | | | | | | | IT-1 | | | | | | | | | | | IT-2 | | | | IT-3 | |
| Integrated Test Phases | ◇ | | | | | | | | | | | | | | | | | ◇ | | | | | | | ◇ | | | |
| Developmental Test Reports | | | | | | | | | | | | OAR1 (IT-1) △ | | | OAR2 (IT-1) △ | | | | | DT RPT (IT-1) △ | | | | | DT RPT (IT-2) △ | | | |
| Operational Assessment Reports | | | | | | | | | | | | | | | | | | | | OAR3 (IT-1) △ | | | | | OAR (IT-2) △ | | | |
| Assessment of Operational Test Readiness | | | | | | | | | | | | | | | | | | | | | | | | | | AOTR (C1) △ | | |
| Operational Test Readiness Review | | | | | | | | | | | | | | | | | | | | | | | | | | OTRR (C1) △ | | |
| Contract Milestones | | | | | | | | | | | | CVN 80 IPPD Contract Award △ | | | | | | | | | CVN 80 CP Contract Award △ | | | | | | | |
| IPPD Contract | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CP Contract | | | | | | | | | | | | CVN 79 Construction Contract Award △ | | | | | | | | | | | | | CVN 78 Ship Delivery △ | | | |
| Construction Contract | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Full Funding (SCN) | | | | | | | | | | | | | | X CVN 79 | | | | | | | | | | | | | | |

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i> | PROJECT 4007: <i>CVN 21 LFT&E</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 4007 | | | | |
| CVN 79 DAB PR | 1 | 2012 | 1 | 2012 |
| Propulsion Plant | 1 | 2010 | 4 | 2016 |
| EMALS SDD Complete | 3 | 2012 | 3 | 2012 |
| Advanced Arresting Gear (AAG) TRR 1 (IT) | 1 | 2010 | 1 | 2010 |
| AAG Config Review | 1 | 2011 | 1 | 2011 |
| AAG TRR 2 (IT) | 3 | 2011 | 3 | 2011 |
| Integrated Test 1 (IT-1) | 1 | 2010 | 4 | 2014 |
| Integrated Test 2 (IT-2) | 4 | 2014 | 3 | 2016 |
| Integrated Test 3 (IT-3) | 3 | 2016 | 4 | 2016 |
| Operational Assessment Report 1 (IT-1) | 2 | 2012 | 2 | 2012 |
| Operational Assessment Report 2 (IT-1) | 3 | 2013 | 3 | 2013 |
| Developmental Test Report (IT-1) | 1 | 2015 | 1 | 2015 |
| Operational Assessment Report 3 (IT-1) | 1 | 2015 | 1 | 2015 |
| Developmental Test Report (IT-2) | 4 | 2016 | 4 | 2016 |
| Operational Assessment Report (IT-2) | 4 | 2016 | 4 | 2016 |
| Assessment of Operational Test Readiness - Phase C1 (AOTRC1) | 4 | 2016 | 4 | 2016 |
| Operational Test Readiness Review - Phase C1 (OTRRC1) | 4 | 2016 | 4 | 2016 |
| CVN 80 IPPD Contract Award | 1 | 2013 | 1 | 2013 |
| CVN 79 Construction Contract Award | 1 | 2013 | 1 | 2013 |
| CVN 80 CP Contract Award | 1 | 2016 | 1 | 2016 |
| CVN 78 Ship Delivery | 4 | 2015 | 4 | 2015 |

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i> | PROJECT 4007: <i>CVN 21 LFT&E</i> |

| Events by Sub Project | Start | | End | |
|-------------------------|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| CVN 79 SCN Full Funding | 1 | 2013 | 4 | 2016 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604567N: <i>Ship Contract Design/ Live Fire T&E</i> | PROJECT 9999: <i>Congressional Adds</i> |
|---|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 9999: <i>Congressional Adds</i> | 3.187 | - | - | - | - | - | - | - | - | 0.000 | 3.187 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Congressional add

B. Accomplishments/Planned Programs (\$ in Millions)

| | FY 2010 | FY 2011 |
|--|---------|---------|
| Congressional Add: Automated Fiber Optic Manufacturing Initiative | 1.992 | - |
| FY 2010 Accomplishments: Continued to address the issue of field installation, field repair, and maintenance by extracting the technologies of the automated manufacturing line and inserting these technologies and process in small, portable, maintenance equipment that could be used by ship construction and ship's force personnel. | | |
| Congressional Add: Landing Craft Composite Lift Fan | 1.195 | - |
| FY 2010 Accomplishments: Continue design, development and manufacturing of two sets of prototype composite material lift fans for application on current and next generation Navy landing craft vessels. This initiative will continue to address the ongoing problem the Navy has been experiencing with current generation metal lift fan blades that have to be replaced periodically through the year at a cost of approximately \$1.4M per year. This technology will extend the life of landing craft lift fans, reducing failures, maintenance and life cycle costs. | | |
| Congressional Adds Subtotals | 3.187 | - |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

Congressional add

E. Performance Metrics

Congressional add

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | | | R-1 ITEM NOMENCLATURE | | | | | | | | |
|---|----------------|----------------|--|--------------------|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> | | | PE 0604574N: <i>Navy Tactical Computer Resources</i> | | | | | | | | |
| BA 5: <i>Development & Demonstration (SDD)</i> | | | | | | | | | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| Total Program Element | 4.441 | 4.443 | 3.848 | - | 3.848 | 3.899 | 3.979 | 4.502 | 4.578 | Continuing | Continuing |
| 1353: <i>Standard Hardware</i> | 4.441 | 4.443 | 3.848 | - | 3.848 | 3.899 | 3.979 | 4.502 | 4.578 | Continuing | Continuing |

A. Mission Description and Budget Item Justification

The Common Processing System (CPS) and Common Display System (CDS) programs are being executed to bring open architecture hardware and technology utilization into a common configuration in a competitive sourcing environment. CPS provides the computer processing and memory, data storage and extraction, and Input/Output (I/O) interface to support hosting Navy combat system software applications and management of computing resources in support of the AEGIS Modernization program, the CVN 78 program and other SSDS MK 2 ships. CDS provides common human machine interface (Combat Information Center (CIC) consoles) to the AEGIS Open Architecture (OA) computing environment and provides war fighter team situational awareness in support of the AEGIS Modernization program. CDS also provides the same capabilities to DDG 1000, LCS, SSDS MK 2 ships (CVN, LHD, LHA, LPD, LSD). CPS provides technical replacements of obsolete processing equipment (such as AN/UYQ-70 and Mission Critical Enclosure (MCE)) supporting multiple platforms including AEGIS new construction Destroyers and Cruisers/Destroyers undergoing modernization, the CVN 78 program and other SSDS MK 2 ships.

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 4.601 | 4.443 | 4.533 | - | 4.533 |
| Current President's Budget | 4.441 | 4.443 | 3.848 | - | 3.848 |
| Total Adjustments | -0.160 | - | -0.685 | - | -0.685 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | - | - | | | |
| • SBIR/STTR Transfer | -0.160 | - | | | |
| • Program Adjustments | - | - | -0.678 | - | -0.678 |
| • Rate/Misc Adjustments | - | - | -0.007 | - | -0.007 |

Change Summary Explanation

Technical:
FY12 - 10% general reduction.

Schedule: Not applicable.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604574N: <i>Navy Tactical Computer Resources</i> | PROJECT 1353: <i>Standard Hardware</i> |
|---|--|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 1353: <i>Standard Hardware</i> | 4.441 | 4.443 | 3.848 | - | 3.848 | 3.899 | 3.979 | 4.502 | 4.578 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

The Common Processing System (CPS) and Common Display System (CDS) programs are being executed to bring open architecture hardware and technology utilization into a common configuration in a competitive sourcing environment. CPS provides the computer processing and memory, data storage and extraction, and Input/Output (I/O) interface to support hosting Navy combat system software applications and management of computing resources in support of the AEGIS Modernization program, the CVN 78 program and other SSDS MK 2 ships. CDS provides common human machine interface (Combat Information Center (CIC) consoles) to the AEGIS Open Architecture (OA) computing environment and provides war fighter team situational awareness in support of the AEGIS Modernization program. CDS also provides the same capabilities to DDG 1000, LCS, SSDS MK 2 ships (CVN, LHD, LHA, LPD, LSD). CPS provides technical replacements of obsolete processing equipment (such as AN/UYQ-70 and Mission Critical Enclosure (MCE)) supporting multiple platforms including AEGIS new construction Destroyers and Cruisers/Destroyers undergoing modernization, the CVN 78 program and other SSDS MK 2 ships.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| Title: Systems Engineering | 4.441 | 4.443 | 3.848 |
| Articles: | 0 | 0 | 0 |
| FY 2010 Accomplishments: Provided Common Display System (CDS) and Common Processing System (CPS) technical design for replacements of obsolete AN/UYQ-70 display and processing equipment supporting multiple platforms including AEGIS Destroyers and Cruisers undergoing modernization. | | | |
| FY 2011 Plans: Continue development of CDS and CPS to support multiple platforms including AEGIS Destroyers and Cruisers undergoing modernization, CVN 78 and other SSDS MK 2 ships. Perform technology refresh of CDS and CPS equipment. | | | |
| FY 2012 Plans: Continue development of CDS and CPS to support multiple platforms including AEGIS Destroyers and Cruisers undergoing modernization, CVN, DDG 1000 and other platforms. Perform technology refresh of CDS and CPS equipment. | | | |
| Accomplishments/Planned Programs Subtotals | 4.441 | 4.443 | 3.848 |

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604574N: <i>Navy Tactical Computer Resources</i> | PROJECT 1353: <i>Standard Hardware</i> |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

Contracts:
CDS IDIQ Production continues FY10-FY16.
CPS IDIQ Production commences FY11-FY16.

E. Performance Metrics

CDS Performance Metrics

FY10 Funding:

- Successfully completed CDS Production Readiness Review (PRR).
- Successfully developed SW to support Non DDG 1000 customers.
- Conducted several research projects to determine possible replacements for components becoming obsolete.
- Conducted initial research for available alternatives to improve CDS console during the next Tech Refresh.
- Conducted quarterly CDS/CPS TR/TI Working Group (WG) Mtgs with prime contractors and customers to identify technology refresh priorities, customer requirements, future technology trends, and obsolescence problems.
- Conducted several CDS Technical Interchange Meetings (TIMs) on an as-needed basis to explore and resolve emergent technical design issues.

FY11 Funding:

- Successfully complete CDS Tech Refresh/Tech Insertion (TR/TI) Systems Requirements Review (SRR), as required.
- Conduct quarterly CDS/CPS TR/TI WG Mtgs with prime contractors and the customers to identify technology refresh priorities, customer requirements, future technology trends, and obsolescence problems.
- Conduct CDS TIMs on an as-needed basis to explore and resolve emergent technical design issues.
- Successfully complete CDS Technology Refresh Environmental Qualification (TREQ) testing, as required.
- Continue researching requirements and possible solutions to minimize obsolescence issues during next Tech Refresh.
- Develop required documentation to achieve ACAT III status.
- Successfully complete required refresh research for build recomplete

FY12 Funding:

- Successfully complete CDS TR/TI Preliminary Design Review (PDR), as required.
- Conduct quarterly CDS/CPS TR/TI WG meetings with prime contractors and customers to identify technology refresh priorities, customer requirements, future technology trends, and obsolescence problems.
- Conduct CDS TIMs on an as-needed basis to explore and resolve emergent technical design issues.

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604574N: <i>Navy Tactical Computer Resources</i> | PROJECT 1353: <i>Standard Hardware</i> |
| <p>-Successfully complete CDS TREQ testing, as required. -Successfully complete required refresh research for build recomplete</p> <p>CPS Performance Metrics</p> <p>FY10 Funding: -Successfully completed CPS Test Readiness Review (TRR). -Conducted several research projects to determine possible replacements for components becoming obsolete. -Conducted quarterly CDS/CPS TR/TI WG meetings with prime contractors and customers to identify technology refresh priorities, customer requirements, future technology trends, and obsolescence problems. -Conducted CPS TIMs to explore and resolve emergent technical design issues.</p> <p>FY11 Funding: -Successfully complete CPS Production Readiness Review (PRR). -Successfully complete CPS Tech Refresh/Tech Insertion (TR/TI) Systems Requirements Review (SRR), as required. -Conduct Quarterly CDS/CPS TR/TI WG meetings with prime contractors and customers to identify technology refresh priorities, customer requirements, future technology trends, and obsolescence problems. -Conduct CPS TIMs to explore and resolve emergent technical design issues. -Continue researching requirements and possible solutions to minimize obsolescence issues during next Tech Refresh. -Develop required documentation to achieve ACAT III status. -Successfully complete CPS Environmental Qualification Testing (EQT), as required.</p> <p>FY12 Funding: -Successfully complete CPS TR/TI PDR, as required. -Conduct Quarterly CDS/CPS TR/TI WG meetings with prime contractors and customers to identify technology refresh priorities, customer requirements, future technology trends, and obsolescence problems. -Conduct CPS TIMs to explore and resolve emergent technical design issues.</p> | | |

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604574N: <i>Navy Tactical Computer Resources</i> | PROJECT 1353: <i>Standard Hardware</i> |
|---|--|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Systems Engineering | WR | NSWC:PHD | 0.130 | 0.050 | Feb 2011 | 0.039 | Nov 2011 | - | | 0.039 | 0.000 | 0.219 | |
| Systems Engineering | WR | NSWC:Dahlgren | 3.141 | 1.036 | Nov 2010 | 0.848 | Nov 2011 | - | | 0.848 | 0.000 | 5.025 | |
| Systems Engineering | WR | NSWC:Crane | 0.799 | - | | - | | - | | - | 0.000 | 0.799 | |
| Systems Engineering | C/CPFF | General Dynamics:Fairfax, VA | 1.602 | 1.148 | Oct 2010 | 1.303 | Jan 2012 | - | | 1.303 | Continuing | Continuing | Continuing |
| Systems Engineering | C/CPFF | DRS Technologies:Gaithersburg, MD | 0.478 | - | | - | | - | | - | 0.000 | 0.478 | |
| Systems Engineering | C/CPIF | Global Technical Systems:Virginia Beach, VA | 0.401 | 2.000 | Nov 2010 | 1.234 | Jan 2012 | - | | 1.234 | Continuing | Continuing | Continuing |
| Systems Engineering | Various | Various:Various | 0.097 | - | | - | | - | | - | 0.000 | 0.097 | |
| Systems Engineering | WR | SPAWAR:Charleston | - | - | | 0.231 | Nov 2011 | - | | 0.231 | 0.000 | 0.231 | |
| Subtotal | | | 6.648 | 4.234 | | 3.655 | | - | | 3.655 | | | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Program Management Services | Various | Various:Various | 0.100 | 0.209 | Dec 2010 | 0.193 | Dec 2011 | - | | 0.193 | 0.100 | 0.602 | |
| Subtotal | | | 0.100 | 0.209 | | 0.193 | | - | | 0.193 | 0.100 | 0.602 | |

| | Total Prior Years Cost | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|-------------------------------|----------------|-------|---------------------|--|--------------------|--|----------------------|--|-------------------------|-------------------|---------------------------------|
| Project Cost Totals | | | 6.748 | 4.443 | | 3.848 | | - | | 3.848 | | |

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy DATE: February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604574N: <i>Navy Tactical Computer Resources</i> | PROJECT 1353: <i>Standard Hardware</i> |
|---|--|--|

| | FY 10 | FY 11 | FY 12 | FY 13 | FY 14 | FY 15 | FY 16 |
|--|-------|-------|-------|-------|-------|-------|-------|
| Acquisition Milestones | | | | | | | |
| CDS PRR | ◆ | | | | | | |
| CPS TRR | ◆ | | | | | | |
| CPS PRR | | ◇ | | | | | |
| Contracts | | | | | | | |
| CDS IDIQ Production | ▲▲▲ | ▲▲▲▲▲ | ▲▲▲▲▲ | ▲▲▲▲▲ | ▲▲▲▲▲ | ▲▲▲▲▲ | ▲▲▲▲▲ |
| CPS IDIQ Production | | ▲▲ | ▲▲▲▲▲ | ▲▲▲▲▲ | ▲▲▲▲▲ | ▲▲▲▲▲ | ▲▲▲▲▲ |
| Technology Refresh / Technical Insertion: (As required) | | | | | | | |
| CDS PDR | | | ◇ | | ◇ | | ◇ |
| CDS SRR | | ◇ | | | ◇ | | ◇ |
| CDS CDR | | | | ◇ | | ◇ | |
| CPS PDR | | | ◇ | | ◇ | | ◇ |
| CPS SRR | | ◇ | | ◇ | | ◇ | |
| CPS CDR | | | | ◇ | | ◇ | |
| Test & Evaluation | | | | | | | |
| CPS EQT | | ▼▼ | | | | | |

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604574N: <i>Navy Tactical Computer Resources</i> | PROJECT 1353: <i>Standard Hardware</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 1353 | | | | |
| Common Display System (CDS) IDIQ Production | 2 | 2010 | 4 | 2016 |
| Acquisition Milestones CDS PRR | 2 | 2010 | 2 | 2010 |
| Acquisition Milestones CPS TRR | 4 | 2010 | 4 | 2010 |
| Acquisition Milestones CPS PRR | 2 | 2011 | 2 | 2011 |
| CPS Environmental Qualification Testing (EQT) | 4 | 2010 | 2 | 2011 |
| CDS Indefinite Delivery/Indefinite Quantity (IDIQ) Production | 2 | 2010 | 4 | 2016 |
| CPS Indefinite Delivery/Indefinite Quantity (IDIQ) Production | 3 | 2011 | 4 | 2016 |
| Technical Insertion CPS PDR, as required | 4 | 2012 | 4 | 2016 |
| Technical Insertion CPS SRR, as required | 4 | 2011 | 4 | 2015 |
| Technical Insertion CPS CDR, as required | 3 | 2013 | 3 | 2015 |
| Technical Insertion CDS PDR, as required | 4 | 2012 | 4 | 2016 |
| Technical Insertion CDS SRR, as required | 4 | 2011 | 2 | 2016 |
| Technical Insertion CDS CDR, as required | 1 | 2013 | 1 | 2015 |

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | | | R-1 ITEM NOMENCLATURE | | | | | | | | |
|---|----------------|----------------|--------------------------------------|--------------------|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | PE 0604601N: <i>Mine Development</i> | | | | | | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| Total Program Element | 2.131 | 5.455 | 3.933 | - | 3.933 | 3.450 | 3.615 | 3.670 | 3.721 | Continuing | Continuing |
| 0267: <i>Mine Improvements</i> | 2.131 | 5.455 | 3.933 | - | 3.933 | 3.450 | 3.615 | 3.670 | 3.721 | Continuing | Continuing |

A. Mission Description and Budget Item Justification

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

This project is the only R&D program for mine systems, and is the sole support for the capability to maintain the effectiveness of mines facing new threat targets and increasing emphasis on major regional conflicts and littoral warfare in shallow water. Project tasks are grouped into several areas: (1) Threat Modeling/Analysis, which collects, analyzes, and develops digital models of data on current priority threat target characteristics to support computer simulations; (2) Target Detection and Response, which uses target models to develop optimal mine designs, settings, and firing algorithms; and (3) Developing and upgrading Tactical Decision Aids (TDAs) to assist the warfighter in planning and placing more effective minefields.

Data Recorders: Mine data recorders record mine target detection and mine fire data during in-water reliability testing. Current recorders are no longer supportable and cannot be used with the Quickstrike Mod 3. New recorders will work with the programmable Target Detecting Device MK 71 used in the Mod 3. They will support in-water testing of all in-service Quickstrike Mods (0, 1, and 3).

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 2.240 | 5.455 | 5.604 | - | 5.604 |
| Current President's Budget | 2.131 | 5.455 | 3.933 | - | 3.933 |
| Total Adjustments | -0.109 | - | -1.671 | - | -1.671 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | - | - | | | |
| • SBIR/STTR Transfer | -0.077 | - | | | |
| • Program Adjustments | - | - | -1.530 | - | -1.530 |
| • Section 219 Reprogramming | -0.032 | - | - | - | - |
| • Rate/Misc Adjustments | - | - | -0.141 | - | -0.141 |

Change Summary Explanation

Technical: Not applicable.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604601N: *Mine Development*

Schedule: Not applicable.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604601N: <i>Mine Development</i> | PROJECT 0267: <i>Mine Improvements</i> |
|---|--|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 0267: <i>Mine Improvements</i> | 2.131 | 5.455 | 3.933 | - | 3.933 | 3.450 | 3.615 | 3.670 | 3.721 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

This project is the only R&D program for mine systems, and is the sole support for the capability to maintain the effectiveness of mines facing new threat targets and increasing emphasis on major regional conflicts and littoral warfare in shallow water. Project tasks are grouped into several areas: (1) Threat Modeling/Analysis, which collects, analyzes, and develops digital models of data on current priority threat target characteristics to support computer simulations; (2) Target Detection and Response, which uses target models to develop optimal mine designs, settings, and firing algorithms; and (3) Developing and upgrading Tactical Decision Aids (TDAs) to assist the warfighter in planning and placing more effective minefields.

Data Recorders: Mine data recorders record mine target detection and mine fire data during in-water reliability testing. Current recorders are no longer supportable and cannot be used with the Quickstrike Mod 3. New recorders will work with the programmable Target Detecting Device MK 71 used in the Mod 3. They will support in-water testing of all in-service Quickstrike Mods (0, 1, and 3).

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|--|---------|---------|---------|
| Title: Product Development | 1.670 | 2.881 | 2.299 |
| Articles: | 0 | 0 | 0 |
| FY 2010 Accomplishments: | | | |
| Software Development: Modifying existing algorithms to implement improvements. Prepare data for minefield planners to us against certain threats. Begin analysis of Quickstrike effectiveness against future threats. Prepare systems and safety engineering information for Navy and Air Force safety boards. | | | |
| FY 2011 Plans: | | | |
| Software Development: Continue modifying existing algorithms to implement improvements. Prepare data for minefield planners to use against additional threats. Complete analysis of Quickstrike effectiveness against future threats. Give presentation to joint Navy and Air force fuze safety board, and respond to action items from the board. Begin design modifications of mine data recorders used for in-water reliability testing for use with Quickstrike MK62/63 Mod 3. Conduct Mining AoA Study | | | |
| FY 2012 Plans: | | | |
| Software Development: Continue initial development of the High Speed Vessels/Shallow Water Twin Hull (HSV/SWATH) algorithm for the Quickstrike Mod 3 (Target Detecting Device Mk 71 Mod 1). Conduct in-water testing of the Air Cushioned Vehicle algorithm and HSV/SWATH algorithm. Complete generating operational data (OPDATA) for the Fast Patrol Boat and | | | |

UNCLASSIFIED

| | | | | |
|---|--|--|----------------|----------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604601N: <i>Mine Development</i> | PROJECT 0267: <i>Mine Improvements</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| large ship algorithms for minefield planning, and begin generating OPDATA for the Air Cushioned Vehicle algorithm. Generate OPDATA for the Air Cushioned Vehicle algorithm for minefield planning. Continue the second phase of development for the ForceNet-compliant Tactical Decision Aid for minefield planning in MEDAL/GCCS-M, to pass minefield plans directly to ForceNet target and aircraft-mission planning software. Integrated Logistic Support (ILS). | | | | |
| Title: Support | | | | |
| | | Articles: | 0.391 0 | 0.012 0 |
| | | | | 0.344 0 |
| FY 2010 Accomplishments: Integrated Logistics Support | | | | |
| FY 2011 Plans: Integrated Logistics Support | | | | |
| FY 2012 Plans: Integrated Logistics Support | | | | |
| Title: Test and Evaluation | | | | |
| | | Articles: | - | 2.315 0 |
| | | | | 1.034 0 |
| FY 2011 Plans: Conduct two in-water tests of two developed algorithms and begin analysis. Provide engineering and material support to NAVAIR and Air Force for analysis and testing of mines with Quickstrike MK62/63 Mod 3. | | | | |
| FY 2012 Plans: Continue Aircraft certification. Perform algorithm validation and operational test. | | | | |
| Title: Management: | | | | |
| | | Articles: | 0.070 0 | 0.247 0 |
| | | | | 0.256 0 |
| FY 2010 Accomplishments: Program Management Support and Travel | | | | |
| FY 2011 Plans: Program Management Support and Travel | | | | |
| FY 2012 Plans: Program Management Support and Travel | | | | |
| Accomplishments/Planned Programs Subtotals | | 2.131 | 5.455 | 3.933 |

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604601N: <i>Mine Development</i> | PROJECT 0267: <i>Mine Improvements</i> |

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> | | | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> | |
|-------------------------------------|----------------|----------------|----------------|------------|--------------|----------------|----------------|----------------|----------------|-----------------|-------------------|
| | | | <u>Base</u> | <u>OCO</u> | <u>Total</u> | | | | | <u>Complete</u> | <u>Total Cost</u> |
| • WPN 3231: <i>Quickstrike Mine</i> | 4.666 | 6.090 | 5.770 | 0.000 | 5.770 | 6.868 | 9.655 | 9.435 | 9.567 | 0.000 | 52.051 |

D. Acquisition Strategy

The Target Detecting Device (TDD) Mk 71 Mod 1 was modified by the TDD Adapter Mk 157 - used in Quickstrike Mk 65 Mod 3 kits, the Safe and Arming Device Mk 75, TDD Adapter Mk 163, and Lithium Battery Mk 176 - used in the Quickstrike Mk 62/63 Mod 3 kits.

E. Performance Metrics

Successfully develop new mine data recorders to work with the programmable Target Detecting Device MK 71 used in the Mod 3.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604601N: <i>Mine Development</i> | PROJECT 0267: <i>Mine Improvements</i> |
|---|--|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Primary Hardware Development | WR | NSWC PC:WX | 111.613 | 1.188 | Nov 2010 | 0.654 | Nov 2011 | - | | 0.654 | Continuing | Continuing | Continuing |
| Ancillary Hardware Development | C/CPAF | Various:Various | 2.158 | 0.500 | Nov 2010 | 0.500 | Nov 2011 | - | | 0.500 | Continuing | Continuing | Continuing |
| Ship Suitability | WR | NSWC PC:WX | 2.467 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| GFE | C/CPAF | Various:Various | 4.790 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Software Development | C/CPAF | Various:WX | 14.434 | 1.193 | Nov 2010 | 1.146 | Nov 2011 | - | | 1.146 | 0.000 | 16.773 | |
| Future Mines | C/CPAF | Various:Various | - | - | Nov 2011 | - | Nov 2011 | - | | - | 0.000 | 0.000 | |
| Subtotal | | | 135.462 | 2.881 | | 2.300 | | - | | 2.300 | | | |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Integrated Logistics Support | WR | NSWC PC:WX | 0.560 | 0.012 | Oct 2010 | 0.344 | Nov 2011 | - | | 0.344 | Continuing | Continuing | Continuing |
| Subtotal | | | 0.560 | 0.012 | | 0.344 | | - | | 0.344 | | | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Development Test & Evaluation | WR | NSWC PC:WX | 17.916 | 2.315 | Oct 2010 | 1.034 | Nov 2011 | - | | 1.034 | 0.000 | 21.265 | |
| Subtotal | | | 17.916 | 2.315 | | 1.034 | | - | | 1.034 | 0.000 | 21.265 | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604601N: <i>Mine Development</i> | PROJECT 0267: <i>Mine Improvements</i> |
|---|--|--|

| Proj 0267 | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|---|---|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| System Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Minefield Planning Tactical Decision Aid Improvements | Minefield Planning Tactical Decision Aid Improvements | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mine Data Recorder Development | Mine Data Recorder Development | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test and Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Quickstrike Mod 3 Aircraft Certification | Quickstrike Mod 3 Aircraft Certification | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Quickstrike Mod 3 Algorithm Development and Testing | Quickstrike Mod 3 Algorithm Development and Testing | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mine Data Recorder Production | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604601N - 0267

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604601N: <i>Mine Development</i> | PROJECT 0267: <i>Mine Improvements</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 0267 | | | | |
| System Development: Minefield Planning Tactical Decision Aid Improvements: Minefield Planning Tactical Decision Aid Improvements | 1 | 2010 | 4 | 2016 |
| System Development: Mine Data Recorder Development: Mine Data Recorder Development | 1 | 2010 | 4 | 2016 |
| Test and Evaluation: Quickstrike Mod 3 Aircraft Certification: Quickstrike Mod 3 Aircraft Certification | 1 | 2010 | 4 | 2016 |
| Test and Evaluation: Quickstrike Mod 3 Algorithm Development and Testing: Quickstrike Mod 3 Algorithm Development and Testing | 1 | 2010 | 4 | 2016 |
| Production Milestones: Mine Data Recorder Production: Mine Data Recorder Production | 1 | 2013 | 4 | 2015 |

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | | | | R-1 ITEM NOMENCLATURE | | | | | | | |
|---|----------------|----------------|---------------------|---|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | PE 0604610N: <i>Lightweight Torpedo Development</i> | | | | | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| Total Program Element | 18.962 | 25.282 | 32.592 | - | 32.592 | 32.546 | 20.149 | 20.594 | 20.966 | Continuing | Continuing |
| 2234: <i>Lightweight Hybrid Torpedo</i> | 18.962 | 25.282 | 32.592 | - | 32.592 | 32.546 | 20.149 | 20.594 | 20.966 | Continuing | Continuing |

A. Mission Description and Budget Item Justification

Lightweight Torpedo program designs, integrates and tests the Lightweight Torpedo (LWT, MK54). The Lightweight Torpedo provides performance improvements in shallow water, counter-measure environments. The Engineering Development Model (EDM) contract was awarded to Raytheon Systems Company in June 1996. The EDM contract has delivered twenty-one EDM units to support the in-water test program. Initial Operating Capability (IOC) achieved in 2004.

Budget supports Pre-Planned Product Improvement (P3I) Program using an incremental developmental acquisition approach combining hardware and Advanced Processor Build (APB) software upgrades to enable rapid fielding of improvements to the Fleet. The P3I program will focus on common Lightweight Torpedo (LWT) and Heavyweight Torpedo (HWT) hardware and software architecture enhancements that will provide re-architecture, broadband array improvements, and Block Upgrade (BUG) and APB software improvements. Future APB software builds will utilize the common torpedo software to deliver software and tactics to both the MK 48 ADCAP and MK 54 Lightweight torpedoes. The P3I program will also support development of enhanced weapon delivery methods, including the high altitude launch of the MK 54 from Maritime Patrol Aircraft (MPA) with the High Altitude Anti-Submarine Warfare Weapon Capability (HAAWC).

FY 2010: Developed hardware/software improvements for P3I program. Developed of MK54 high altitude launch capability from MPA.

FY 2011: Continue development of hardware/software improvements for P3I program. Continue development of MK54 high altitude launch capability from MPA.

A modification to the MK54 P3I program was directed by CNO to address a Fleet Urgent Operation Need (UON), which enables the early fielding of specific BUG capabilities. The Development of these changes are being accomplished under the software program and are referred to as the Torpedo UON Rapid Fielding (TURF) effort. TURF development and testing, which will be accomplished through a Quick Reaction Assessment (QRA), will result in TURF fleet release in late FY11, pushing BUG IOC from the 4th qtr FY12 to 4th qtr FY15.

FY 2012: Continue development of hardware/software improvements for P3I program. Continue development of MK54 high altitude launch capability from MPA.

UNCLASSIFIED

| | |
|---|----------------------------|
| Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy | DATE: February 2011 |
|---|----------------------------|

| | |
|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604610N: <i>Lightweight Torpedo Development</i> |
|---|---|

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 23.407 | 25.282 | 33.700 | - | 33.700 |
| Current President's Budget | 18.962 | 25.282 | 32.592 | - | 32.592 |
| Total Adjustments | -4.445 | - | -1.108 | - | -1.108 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | -0.694 | - | | | |
| • SBIR/STTR Transfer | -0.724 | - | | | |
| • Program Adjustments | - | - | -0.523 | - | -0.523 |
| • Section 219 Reprogramming | -0.637 | - | - | - | - |
| • Rate/Misc Adjustments | - | - | -0.585 | - | -0.585 |
| • Congressional General Reductions | 0.010 | - | - | - | - |
| Adjustments | | | | | |
| • Congressional Add Adjustments | -2.400 | - | - | - | - |

Change Summary Explanation

Technical: Not Applicable
Schedule: Not applicable.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604610N: <i>Lightweight Torpedo Development</i> | PROJECT 2234: <i>Lightweight Hybrid Torpedo</i> |
|---|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 2234: <i>Lightweight Hybrid Torpedo</i> | 18.962 | 25.282 | 32.592 | - | 32.592 | 32.546 | 20.149 | 20.594 | 20.966 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

The program designs, integrates and tests the Lightweight Torpedo (LWT, MK54). The Lightweight Torpedo provides performance improvements in shallow water, counter-measure environments. The Engineering Development Model (EDM) contract was awarded to Raytheon Systems Company in June 1996. The EDM contract has delivered twenty-one EDM units to support the in-water test program. Initial Operating Capability (IOC) achieved in 2004.

- FY 2010 delivery included 6 EDM/POD arrays and 4 TI-1 EDM units.
- FY 2011 delivery includes 12 POD/POM arrays and 6 TI-1 POD/POM.
- FY 2012 delivery includes 8 TI-1 POM units.
- FY 2013 delivery includes 20 HAAWC POM units.
- FY14 delivery includes 20 HAAWC POM units.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| Title: MK54 Pre-Planned Product Improvement (incl.MK54 VLA Integr & HAAWC prog) | 18.962 | 25.282 | 32.592 |
| Articles: | 10 | 18 | 8 |
| FY 2010 Accomplishments: | | | |
| Continued development of hardware/software improvements for P3I program BUG/CAT and APB (\$12.961M). | | | |
| Continued development of P3I Program hardware/software for the new array (\$3.810M). | | | |
| Continued development of MK 54 high altitude launch capability from MPA (\$2.191M). | | | |
| Funding in FY 2010 reallocated from HAAWC to software development, primarily BUG, as result of delays in awarding HAAWC contract. | | | |
| FY 2011 Plans: | | | |
| Continue development of hardware/software improvements for P3I program BUG/CAT and APB (\$2.036M). | | | |
| Continue development of hardware/software for the new array (\$5.226M). | | | |
| Continue development of MK 54 high altitude launch capability from MPA (\$18.020M). | | | |
| APB 5 and new array will be developed concurrently. BUG/CAT and APB improvements include UON execution. | | | |
| FY 2012 Plans: | | | |
| Continue development of hardware/software improvements for P3I program BUG/CAT and APB (\$3.176M) | | | |
| Continue development of hardware/software for the new array (\$3.243M) | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604610N: <i>Lightweight Torpedo Development</i> | PROJECT 2234: <i>Lightweight Hybrid Torpedo</i> |
|---|---|---|

| | | | |
|---|----------------|----------------|----------------|
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
| Continue development of MK 54 high altitude launch capability from MPA (\$26.173M) | | | |
| Accomplishments/Planned Programs Subtotals | 18.962 | 25.282 | 32.592 |

C. Other Program Funding Summary (\$ in Millions)

| Line Item | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--------------------------------------|---------|---------|-----------------|----------------|------------------|---------|---------|---------|---------|---------------------|------------|
| • WPN/3215: <i>MK54 Torpedo Mods</i> | 37.621 | 42.144 | 78.045 | 0.000 | 78.045 | 99.511 | 151.399 | 200.424 | 203.439 | Continuing | Continuing |

D. Acquisition Strategy

The EDM contract is held by Raytheon Systems Company. The contract was awarded as a Cost-Plus-Award Fee in June 1996 and was converted to Cost-Plus-Incentive Fee in December 1998. Sole Source Production Contract awarded in FY 2004 for MK48 ADCAP MODS/CBASS and MK54 Lightweight Torpedoes. P3I spiral acquisition strategy is to award EDM contracts among qualified producers.

E. Performance Metrics

Milestone Reviews.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604610N: <i>Lightweight Torpedo Development</i> | PROJECT 2234: <i>Lightweight Hybrid Torpedo</i> |
|---|---|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|--|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Hardware Development | WR | NUWC:Newport/Keyport | 30.786 | 7.162 | Oct 2010 | 8.245 | Oct 2011 | - | | 8.245 | Continuing | Continuing | Continuing |
| Hardware Development | C/CPAF | Raytheon:Not Specified | 3.530 | - | | 0.200 | Oct 2011 | - | | 0.200 | 0.000 | 3.730 | |
| Hardware Development | WR | NSWC:Indian Head, MD | 0.682 | 0.200 | Mar 2011 | - | | - | | - | Continuing | Continuing | Continuing |
| Systems Engineering | WR | NUWC:Newport/Keyport | 18.489 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Systems Engineering | SS/FP | Lockheed Martin - VLA:Akron, OH | 2.501 | - | | - | | - | | - | 0.000 | 2.501 | |
| Systems Engineering | WR | PEO-IWS 3,:Dahlgren, VA | 2.882 | - | | - | | - | | - | 0.000 | 2.882 | |
| Systems Engineering | WR | PEO-IWS 5,:Dahlgren, VA | 2.223 | - | | - | | - | | - | 0.000 | 2.223 | |
| Systems Engineering | WR | NSWC PMA 290:Paxtuxent, MD | 4.420 | 0.747 | Nov 2010 | 2.500 | Oct 2011 | - | | 2.500 | Continuing | Continuing | Continuing |
| Systems Engineering | WR | NAWCWD:China Lake | 0.379 | 0.794 | Nov 2011 | - | | - | | - | 0.000 | 1.173 | |
| Systems Engineering | SS/FP | SPA Inc.:Not Specified | 0.640 | - | | - | | - | | - | 0.000 | 0.640 | |
| Hardware Development | SS/FP | Progeny Systems:Not Specified | 24.394 | - | | - | | - | | - | 0.000 | 24.394 | |
| Hardware Development | C/CPAF | TBD for HAAWC:Not Specified | 11.592 | 10.686 | Jul 2011 | 15.524 | Oct 2011 | - | | 15.524 | Continuing | Continuing | Continuing |
| Software Development | WR | NUWC:Newport/Keyport | 17.122 | 1.191 | Oct 2010 | 1.669 | Oct 2011 | - | | 1.669 | Continuing | Continuing | Continuing |
| Systems Engineering | WR | Naval Operational Logistics Support Center (NOLSC):Not Specified | 0.025 | - | | - | | - | | - | 0.000 | 0.025 | |
| Systems Engineering | C/CPFF | John Hopkins University:Baltimore, MD | - | 0.050 | Apr 2011 | - | | - | | - | 0.000 | 0.050 | |
| Software Development | C/CPFF | MIT:Boston, MA | - | - | | 0.300 | Oct 2011 | - | | 0.300 | 0.000 | 0.300 | |
| Subtotal | | | 119.665 | 20.830 | | 28.438 | | - | | 28.438 | | | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604610N: <i>Lightweight Torpedo Development</i> | PROJECT 2234: <i>Lightweight Hybrid Torpedo</i> |
|---|---|---|

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| System Test and Evaluation | WR | NUWC:Newport/Keyport | 17.467 | 3.380 | Oct 2010 | 3.150 | Oct 2011 | - | | 3.150 | Continuing | Continuing | Continuing |
| Subtotal | | | 17.467 | 3.380 | | 3.150 | | - | | 3.150 | | | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Systems Engineering | WR | NSWC:NSWC Carderock | 0.090 | - | | - | | - | | - | 0.000 | 0.090 | |
| System Test and Evaluation | WR | OPTEVFOR:Not Specified | 1.272 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| System Test and Evaluation | WR | NUWC:Newport/Keyport | 13.231 | 0.601 | Oct 2010 | 0.400 | Oct 2011 | - | | 0.400 | Continuing | Continuing | Continuing |
| Subtotal | | | 14.593 | 0.601 | | 0.400 | | - | | 0.400 | | | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Program Management Support | Various | Alion Science:Not Specified | 1.585 | 0.320 | Oct 2010 | 0.320 | Oct 2011 | - | | 0.320 | Continuing | Continuing | Continuing |
| Travel | WR | NAVSEA:Not Specified | 0.250 | 0.058 | Oct 2010 | 0.058 | Oct 2011 | - | | 0.058 | Continuing | Continuing | Continuing |
| Acquisition Workforce Fund | Various | Various:Various | 0.226 | - | | - | | - | | - | 0.000 | 0.226 | |
| Program Management Support | Various | ARL/PSU:Philadelphia, PA | - | - | | 0.161 | Oct 2011 | - | | 0.161 | 0.000 | 0.161 | |
| Program Management Support | Various | NAVSEA:Not Specified | - | 0.093 | Feb 2011 | 0.065 | Oct 2011 | - | | 0.065 | 0.000 | 0.158 | |
| Subtotal | | | 2.061 | 0.471 | | 0.604 | | - | | 0.604 | | | |

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604610N: <i>Lightweight Torpedo Development</i> | PROJECT 2234: <i>Lightweight Hybrid Torpedo</i> |

UNCLASSIFIED

| Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy | | DATE: February 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|---|------|----|------|----|------|----|------|----|------|----|--------|----|------|----|------|----|------|----|------|----|------|----|------|----------|----------|----|--|--|--|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|----------|--|----------|--|--|--|--|--|--|--|--|--|--|-----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|-------------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--------|--|--|---|---|--|--|----|--|---|--|--|--|----------|--|--|-------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|-----------|--|--|---|--|--|---|--|--|--|--|--|--|--|---|--|----|---|--|--|----|--|---|--|--|--|----------|--|--|-----------------------------------|--|--|--|--|--|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---|--|--|------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|-------|--|--|--|--|--|--|--|--|--|--|--|--|--|---|--|--|--|--|--|--|--|--|--|--|--|--|----------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 05: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604610N: <i>Lightweight Torpedo Development</i> | PROJECT 2234: <i>Lightweight Hybrid Torpedo</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th colspan="4">FY10</th> <th colspan="4">FY11</th> <th colspan="4">FY12</th> <th colspan="4">FY13</th> <th colspan="4">FY14</th> <th colspan="4">FY15</th> <th colspan="4">FY16</th> </tr> <tr> <th></th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> <th>Q1</th><th>Q2</th><th>Q3</th><th>Q4</th> </tr> </thead> <tbody> <tr> <td>HARDWARE SPIRALS</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td> MK54 VLA</td> <td></td><td>▲ IOC</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>PRR</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td> Tech Insertion 1 (TI-1) / New Array</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>▲ ▲</td><td></td><td></td><td>▲</td><td>▲</td><td></td><td></td><td>OT</td><td></td><td>▲</td><td></td><td></td><td></td><td>▲ IOC</td><td></td><td></td> </tr> <tr> <td>SOFTWARE SPIRALS</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td> BUG / CAT</td> <td></td><td></td><td>▲</td><td></td><td></td><td>▲</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>▲</td><td></td><td>DT</td><td>▲</td><td></td><td></td><td>OT</td><td></td><td>▲</td><td></td><td></td><td></td><td>▲ IOC</td><td></td><td></td> </tr> <tr> <td> Torpedo UON Rapid Fielding (TURF)</td> <td></td><td></td><td></td><td></td><td></td><td>▲</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td> Advanced Processor Build (APB)</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>▲</td><td></td><td></td> </tr> <tr> <td> HIGH ALTITUDE ASW CAPABILITY</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td> HAAWC</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>▲</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>▲ IOC</td><td></td> </tr> <tr> <td></td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </tbody> </table> | | FY10 | | | | FY11 | | | | FY12 | | | | FY13 | | | | FY14 | | | | FY15 | | | | FY16 | | | | | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | HARDWARE SPIRALS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | MK54 VLA | | ▲ IOC | | | | | | | | | | | PRR | | | | | | | | | | | | | | | | Tech Insertion 1 (TI-1) / New Array | | | | | | | | | | | | | ▲ ▲ | | | ▲ | ▲ | | | OT | | ▲ | | | | ▲ IOC | | | SOFTWARE SPIRALS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | BUG / CAT | | | ▲ | | | ▲ | | | | | | | | ▲ | | DT | ▲ | | | OT | | ▲ | | | | ▲ IOC | | | Torpedo UON Rapid Fielding (TURF) | | | | | | ▲ | | | | | | | | | | | | | | | | | | | | | | | Advanced Processor Build (APB) | | | | | | | | | | | | | | | | | | | | | | | | | | ▲ | | | HIGH ALTITUDE ASW CAPABILITY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | HAAWC | | | | | | | | | | | | | | ▲ | | | | | | | | | | | | | ▲ IOC | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | FY10 | | | | FY11 | | | | FY12 | | | | FY13 | | | | FY14 | | | | FY15 | | | | FY16 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HARDWARE SPIRALS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MK54 VLA | | ▲ IOC | | | | | | | | | | | PRR | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Tech Insertion 1 (TI-1) / New Array | | | | | | | | | | | | | ▲ ▲ | | | ▲ | ▲ | | | OT | | ▲ | | | | ▲ IOC | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SOFTWARE SPIRALS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BUG / CAT | | | ▲ | | | ▲ | | | | | | | | ▲ | | DT | ▲ | | | OT | | ▲ | | | | ▲ IOC | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Torpedo UON Rapid Fielding (TURF) | | | | | | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Advanced Processor Build (APB) | | | | | | | | | | | | | | | | | | | | | | | | | | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HIGH ALTITUDE ASW CAPABILITY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HAAWC | | | | | | | | | | | | | | ▲ | | | | | | | | | | | | | ▲ IOC | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

UNCLASSIFIED

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604610N: <i>Lightweight Torpedo Development</i> | PROJECT 2234: <i>Lightweight Hybrid Torpedo</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 2234 | | | | |
| Hardware Spirals MK54 VLA IOC | 2 | 2010 | 2 | 2010 |
| Tech Insertion 1 (TI-1) /New Array Production Readiness Review (PRR) | 1 | 2013 | 1 | 2013 |
| Tech Insertion 1 (TI-1) /New Array Developmental Testing (DT) | 1 | 2013 | 4 | 2013 |
| Tech Insertion 1 (TI-1) /New Array OT | 1 | 2014 | 1 | 2015 |
| Tech Insertion 1 (TI-1) /New Array IOC | 4 | 2015 | 4 | 2015 |
| Software Spirals BUG/CAT DT | 3 | 2010 | 2 | 2011 |
| Urgent Operational Need (UON) | 1 | 2011 | 4 | 2011 |
| Urgent Operational Need (UON) IOC | 1 | 2012 | 1 | 2012 |
| APB 5 | 2 | 2010 | 4 | 2015 |
| APB 6 | 1 | 2015 | 4 | 2016 |
| HAAWC Design/Development/Qualification | 1 | 2010 | 2 | 2013 |
| HAAWC Production Readiness Review (PRR) | 2 | 2013 | 2 | 2013 |
| HAAWC DT | 4 | 2013 | 3 | 2014 |
| HAAWC OT | 4 | 2014 | 2 | 2015 |
| HAAWC IOC | 1 | 2016 | 2 | 2016 |

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604654N: <i>JT Service EOD</i> |
|---|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| Total Program Element | 9.729 | 10.489 | 9.960 | 3.500 | 13.460 | 10.216 | 10.308 | 10.538 | 10.709 | Continuing | Continuing |
| 1829: <i>Expl Ord Disp Proc</i> | 9.729 | 10.489 | 9.960 | 3.500 | 13.460 | 10.216 | 10.308 | 10.538 | 10.709 | Continuing | Continuing |

A. Mission Description and Budget Item Justification

DOD Directive 5160.62 assigned to the Secretary of the Navy (SECNAV) the responsibility of Single Manager for Explosive Ordnance Disposal (EOD) Technology and Training (T&T). It also assigns to the Executive Manager for EODT&T the responsibility to provide for technical development, validation, preparation, Joint Service approval, and distribution of all EOD procedures texts, graphic aids, manuals, and bulletins. This program provides for the development of validated EOD render-safe procedures (RSPs), key identification features, and safety information used by EOD personnel in all four military services when performing their mission of rendering safe and disposing of both domestic and foreign explosive ordnance and Improvised Explosive Devices (IEDs) that pose a threat to military operations, installations, personnel, and materials. In addition, EOD render-safe procedures for foreign ordnance must be developed as soon as possible after gaining knowledge of its existence. This effort requires exploitation and analysis of the foreign ordnance prior to development of the procedures. The program also provides for the development and evaluation of prototypical EOD Tier Two solutions sets for threats Identified in the National Response Framework. This effort also provides resources necessary for the Foreign Threat Mine Acquisition/Exploitation (FTMA/E) program. This effort includes acquisition, inert certification, intelligence and operational exploitation, analysis, procedure development, and disposition of the highest priority foreign threat naval mines.

This program is a non-acquisition program (without traditional acquisition milestones) with on-going, continuous delivery of urgent and periodic documented procedures and identification guides.

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 10.284 | 10.489 | 10.702 | - | 10.702 |
| Current President's Budget | 9.729 | 10.489 | 9.960 | 3.500 | 13.460 |
| Total Adjustments | -0.555 | - | -0.742 | 3.500 | 2.758 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | - | - | | | |
| • SBIR/STTR Transfer | -0.354 | - | | | |
| • Program Adjustments | - | - | -0.072 | 3.500 | 3.428 |
| • Section 219 Reprogramming | -0.201 | - | - | - | - |
| • Rate/Misc Adjustments | - | - | -0.670 | - | -0.670 |

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604654N: *JT Service EOD*

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604654N: <i>JT Service EOD</i> | PROJECT 1829: <i>Expl Ord Disp Proc</i> |
|---|--|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 1829: <i>Expl Ord Disp Proc</i> | 9.729 | 10.489 | 9.960 | 3.500 | 13.460 | 10.216 | 10.308 | 10.538 | 10.709 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

DOD Directive 5160.62 assigned to the Secretary of the Navy (SECNAV) the responsibility of Single Manager for Explosive Ordnance Disposal (EOD) Technology and Training (T&T). It also assigns to the Executive Manager for EODT&T the responsibility to provide for technical development, validation, preparation, Joint Service approval, and distribution of all EOD procedures texts, graphic aids, manuals, and bulletins. This program provides for the development of validated EOD render-safe procedures (RSPs), key identification features, and safety information used by EOD personnel in all four military services when performing their mission of rendering safe and disposing of both domestic and foreign explosive ordnance and Improvised Explosive Devices (IEDs) that pose a threat to military operations, installations, personnel, and materials. In addition, EOD render-safe procedures for foreign ordnance must be developed as soon as possible after gaining knowledge of its existence. This effort requires exploitation and analysis of the foreign ordnance prior to development of the procedures. The program also provides for the development and evaluation of prototypical EOD Tier Two solutions sets for threats Identified in the National Response Framework. This effort also provides resources necessary for the Foreign Threat Mine Acquisition/Exploitation (FTMA/E) program. This effort includes acquisition, inert certification, intelligence and operational exploitation, analysis, procedure development, and disposition of the highest priority foreign threat naval mines.

This program is a non-acquisition program (without traditional acquisition milestones) with on-going, continuous delivery of urgent and periodic documented procedures and identification guides.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|--------------|-------------|---------------|
| Title: Render-Safe Procedures (RSP) Development | 3.362 | 3.980 | 3.959 | - | 3.959 |
| Articles: | 0 | 0 | 0 | | 0 |
| FY 2010 Accomplishments: Analyzed and exploited foreign ordnance items, and develop render-safe procedures for new domestic and foreign ordnance. | | | | | |
| FY 2011 Plans: Exploit and analyze high priority foreign threat ordnance items, and develop render-safe procedures for new domestic and foreign ordnance for the EOD community. | | | | | |
| FY 2012 Base Plans: | | | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604654N: <i>JT Service EOD</i> | PROJECT 1829: <i>Expl Ord Disp Proc</i> |
|---|--|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|------------|------------|--------------|-------------|---------------|
| Analyze and exploit foreign ordnance items resulting in the development of render-safe procedures for use by the EOD Community. | | | | | |
| <p>Title: Improvised Nuclear Device (IND) Countermeasures</p> <p align="right">Articles:</p> <p>FY 2010 Accomplishments: Developed specialized procedures and prototypical tools for EOD response elements in preparation for response to IND and WMD incidents accounting for evolving threat.</p> <p>FY 2011 Plans: Develop information, procedures, and prototypical tools for specialized EOD response elements in advance of the evolving IND and WMD threat.</p> <p>FY 2012 Base Plans: Develop specialized procedures for EOD response elements to stay ahead of the response to IND and WMD threats.</p> | 3.204 0 | 3.403 0 | 2.839 0 | - | 2.839 0 |
| <p>Title: Special Missions Tool Development</p> <p align="right">Articles:</p> <p>FY 2012 Base Plans: Develop and evaluate prototypical EOD Tier Two solutions sets for threats Identified in the National Response Framework.</p> | - | - | 0.460 0 | - | 0.460 0 |
| <p>Title: Foreign Mine Acquisition</p> <p align="right">Articles:</p> <p>FY 2010 Accomplishments: Acquired foreign sea mines of the highest priority, for exploitation and development of countermeasures procedures.</p> <p>FY 2011 Plans: Acquire additional high priority foreign threat naval mines for the purpose of the exploitation and the development of procedures to counter these foreign mines.</p> <p>FY 2012 Base Plans:</p> | 3.163 0 | 3.106 0 | 2.702 0 | - | 2.702 0 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604654N: <i>JT Service EOD</i> | PROJECT 1829: <i>Expl Ord Disp Proc</i> |
|---|--|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|--------------|-------------|---------------|
| Acquire high priority foreign mines for exploitation and analyses leading to development of procedures to counter these threats. | | | | | |
| Title: Joint Service EOD Speical Missions OCO | - | - | - | 3.500 | 3.500 |
| Articles: | | | 0 | 0 | 0 |
| FY 2012 Base Plans: N/A | | | | | |
| FY 2012 OCO Plans: Joint Service EOD Special Mission Support - Platoons supporting SOF/NAVSOF have unique mission requirements per CONPLAN 0300. There are unique tools for these forces that need to be developed and/or modified from COTS to provide agile counter WMD and counter proliferation capability when supporting COCOM contingency. These forces are deployed in direct support of SOF/NAVSOF in AF/IZ and must have this expanded capability if directed by COCOM. All technology will be developed and operationally tested within 12 months. | | | | | |
| Accomplishments/Planned Programs Subtotals | 9.729 | 10.489 | 9.960 | 3.500 | 13.460 |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

This is a non-acquisition program.

E. Performance Metrics

Analyzed and exploited foreign and domestic ordnance resulting in the development of 97 validated render-safe procedures and the development of 2,164 procedures providing ordnance key identification features, safety information and other technical details for the Joint Service EOD community. Also developed and validated 125 IED / WMD countermeasures procedures.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604703N: <i>Personnel, Trng, Sim, & Human Factors</i> |
|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| Total Program Element | 6.424 | 10.759 | 12.992 | - | 12.992 | 8.758 | 8.939 | 9.108 | 9.247 | Continuing | Continuing |
| 1767: <i>Naval War Col Strategic Studies Supt</i> | - | 0.234 | - | - | - | - | - | - | - | 0.000 | 0.234 |
| 1822: <i>Manpower Pers & Human Fact System</i> | 5.627 | 10.525 | 12.992 | - | 12.992 | 8.758 | 8.939 | 9.108 | 9.247 | Continuing | Continuing |
| 9999: <i>Congressional Adds</i> | 0.797 | - | - | - | - | - | - | - | - | 0.000 | 0.797 |

A. Mission Description and Budget Item Justification

This non-acquisition category program provides funds for continued (but less risky) R&D for broader application of advanced technologies to transition successful research proof-of-concept demonstrations into operational use. Development of prototype systems to support and/or improve operational requirements of manpower and personnel sponsors is the primary goal of this Engineering Development Program. The R&D Program features the use of a broad range of technologies from cognitive science, human systems integration, learning management, content management & delivery, learning and ability testing techniques, mathematical modeling and optimization, statistical and econometric forecasting, intelligent systems, data visualization, data mining, simulation, decision support systems, and new services oriented architectures to include applications, databases and communications configuration. This non-acquisition category program provides funds for continued R&D for broader application of advanced training technologies and the science of learning to transition successful research proof of concept demonstrations and rapid prototyping of Commercial off the Shelf/Government off the Shelf (COTS/GOTS) technologies into operational use.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604703N: <i>Personnel, Trng, Sim, & Human Factors</i> |
|---|---|

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 6.646 | 10.759 | 13.252 | - | 13.252 |
| Current President's Budget | 6.424 | 10.759 | 12.992 | - | 12.992 |
| Total Adjustments | -0.222 | - | -0.260 | - | -0.260 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | - | - | | | |
| • SBIR/STTR Transfer | -0.207 | - | | | |
| • Program Adjustments | - | - | -0.131 | - | -0.131 |
| • Section 219 Reprogramming | -0.004 | - | - | - | - |
| • Rate/Misc Adjustments | - | - | -0.129 | - | -0.129 |
| • Congressional General Reductions Adjustments | -0.011 | - | - | - | - |

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 9999: *Congressional Adds*

Congressional Add: *Workforce Requirements Planning - Team Enhancement*

Congressional Add Subtotals for Project: 9999

Congressional Add Totals for all Projects

| | FY 2010 | FY 2011 |
|--|----------------|----------------|
| | 0.797 | - |
| | 0.797 | - |
| | 0.797 | - |

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604703N: <i>Personnel, Trng, Sim, & Human Factors</i> | PROJECT 1767: <i>Naval War Col Strategic Studies Supt</i> |
|---|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 1767: <i>Naval War Col Strategic Studies Supt</i> | - | 0.234 | - | - | - | - | - | - | - | 0.000 | 0.234 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Naval War College (NWC) conducts strategic and operational war gaming and research for Office of the Chief of Naval Operations (OPNAV), the numbered Fleets, Fleet Commanders, and the Combatant Commanders. Each year, 50-60 major war games and associated events provide support to efforts that explore and analyze military, political, informational and economic aspects of differing strategic and operational scenarios and tactical imperatives.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|--|---------|---------|---------|
| Title: Naval War College/Center for Naval Warfare Studies | - | 0.234 | - |
| Articles: | | 0 | |
| FY 2011 Plans: N/A | | | |
| Accomplishments/Planned Programs Subtotals | - | 0.234 | - |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

Not Applicable.

E. Performance Metrics

Not Applicable.

UNCLASSIFIED

| | | | | | | | | | | | |
|---|----------------|----------------|---------------------|---|----------------------|----------------|----------------|--|----------------|-------------------------|-------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | | | | | | | DATE: February 2011 | | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | R-1 ITEM NOMENCLATURE PE 0604703N: <i>Personnel, Trng, Sim, & Human Factors</i> | | | | PROJECT 1822: <i>Manpower Pers & Human Fact System</i> | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| 1822: <i>Manpower Pers & Human Fact System</i> | 5.627 | 10.525 | 12.992 | - | 12.992 | 8.758 | 8.939 | 9.108 | 9.247 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

This non-acquisition category program provides funds for continued (but less risky) R&D for broader application of advanced technologies to transition successful 6.3 research proof-of-concept demonstrations into operational use. Development of prototype systems to support and/or improve operational requirements of manpower and personnel sponsors is the primary goal of this Engineering Development Program. The 6.5 R&D Program features the use of a broad range of technologies from cognitive science, human systems integration, learning management, content management & delivery, learning and ability testing techniques, mathematical modeling and optimization, statistical and econometric forecasting, intelligent systems, data visualization, data mining, simulation, decision support systems, and new databases and communications configuration.

This program is funded under RDT&E operational systems development because it encompasses engineering and development of new end-items prior to production approval decision and the upgrading and enhancement of existing MPTE decision support systems, tools and models.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|--|----------------|----------------|----------------|
| Title: Manpower Pers & Human Fact System | 5.627 | 10.525 | 12.992 |
| Articles: | 0 | 0 | 0 |
| FY 2010 Accomplishments: | | | |
| -Began transitioning of Future Naval Warfighter Capabilities (FNWC) Capable Manpower products | | | |
| -Began transition of Integrated System for Language Education and Training (ISLET) | | | |
| -Began transition of Virtual Environment for Ship and Shore Experiential Learning (VESSEL) | | | |
| -Continued Training and Supply Chain Management Decision Support Systems integration and transition | | | |
| -Continued Improved Manpower and Personnel Integration Tool | | | |
| -Continued transition of Future Naval Warfighter Capabilities (FNWC) Capable Manpower (CM) Refresh of early prototypes | | | |
| -Continued development of Training Capacity Tradeoff Model | | | |
| -Continued enhancement of products delivered via World Class Modeling | | | |
| -Began transition of DARPA Digital Tutor to Center for Information Dominance for IT Training | | | |
| FY 2011 Plans: | | | |
| -Continue transitioning of Future Naval Warfighter Capabilities (FNWC) Capable Manpower products | | | |
| -Continue transition of Integrated System for Language Education and Training (ISLET) | | | |
| -Continue and complete transition of Virtual Environment for Ship and Shore Experiential Learning (VESSEL) | | | |
| -Continue Training and Supply Chain Management Decision Support Systems integration and transition | | | |

UNCLASSIFIED

| | |
|--|----------------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | DATE: February 2011 |
|--|----------------------------|

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604703N: <i>Personnel, Trng, Sim, & Human Factors</i> | PROJECT 1822: <i>Manpower Pers & Human Fact System</i> |
|---|---|--|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| <ul style="list-style-type: none"> -Continue Improved Manpower and Personnel Integration Tool -Continue transition of Future Naval Warfighter Capabilities (FNWC) Capable Manpower (CM) Refresh of early prototypes -Continue development of Training Capacity Tradeoff Model -Continue enhancement of products delivered via World Class Modeling -Continue transition of DARPA Digital Tutor to Center for Information Dominance for IT Training <p><i>FY 2012 Plans:</i></p> <ul style="list-style-type: none"> -Continue transitioning of Future Naval Warfighter Capabilities (FNWC) Capable Manpower products -Continue transition of Integrated System for Language Education and Training (ISLET) -Continue Training and Supply Chain Management Decision Support Systems integration and transition -Continue Improved Manpower and Personnel Integration Tool -Continue transition of Future Naval Warfighter Capabilities (FNWC) Capable Manpower (CM) Refresh of early prototypes -Continue development of Training Capacity Tradeoff Model -Continue enhancement of products delivered via World Class Modeling -Continue and complete transition of DARPA Digital Tutor to Center for Information Dominance for IT Training | | | |
| Accomplishments/Planned Programs Subtotals | 5.627 | 10.525 | 12.992 |

C. Other Program Funding Summary (\$ in Millions)
N/A

D. Acquisition Strategy
Not Applicable.

E. Performance Metrics
This PE provides funding to support the transition of models and decision support tools from RDT&E funded research, Science and Technology (6.2-6.3), to production and into the hands of analysts and program managers throughout the Manpower, Personnel, Training and Education enterprise. The PE also supports the application of proven industry models, tools and methodologies to Navy MPTE problems where GOTS solutions are non-existent. One goal of this PE is to transition 90% of successful S&T products to production and eventual use within the Navy. An acceptable metric will be to successfully transition 80% of the products. The second goal of the PE is to successfully implement 90% of the industry-standard tools that are attempted to be used in Navy applications.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604703N: <i>Personnel, Trng, Sim, & Human Factors</i> | PROJECT 1822: <i>Manpower Pers & Human Fact System</i> |
|---|---|--|

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Development Support | Allot | NPRST:Millington, TN | 1.000 | 2.250 | Oct 2010 | 2.280 | Oct 2011 | - | | 2.280 | Continuing | Continuing | Continuing |
| Development Support | Allot | CNP:Washington DC | 4.627 | 8.275 | Oct 2010 | 10.712 | Oct 2011 | - | | 10.712 | Continuing | Continuing | Continuing |
| Subtotal | | | 5.627 | 10.525 | | 12.992 | | - | | 12.992 | | | |

Remarks
FY12 increase is due to Issue #50372,POM12 RMD 700 Programmatic Adjustment - Global Force Management Data Initiative.

| | Total Prior Years Cost | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|------------------------|---------|--|--------------|--|-------------|--|---------------|------------------|------------|--------------------------|
| Project Cost Totals | 5.627 | 10.525 | | 12.992 | | - | | 12.992 | | | |

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604703N: *Personnel, Trng, Sim, & Human Factors*

PROJECT

1822: *Manpower Pers & Human Fact System*

| CLASSIFICATION: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|--|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|--|
| EXHIBIT R4, Schedule Profile | | DATE: January 2011 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| APPROPRIATION/BUDGET ACTIVITY | PROGRAM ELEMENT NUMBER AND NAME | PROJECT NUMBER AND NAME | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RDT&E, N /BA5 | 0604703N - Manpower, Personnel, Training, Simulation, and Human Fact | L1822/Manpower, Personnel, Training, Sim, and HF | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fiscal Year | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | 2014 | | | | 2015 | | | | 2016 | | | | |
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | |
| Future Naval Warfighter Capabilities (FNWC) | | | ▲ | ▲ | | | ▲ | ▲ | | | ▲ | ▲ | | | | | | | | | | | | | | | | | |
| Capable Manpower products | | | ▲ | ▲ | | | ▲ | ▲ | | | ▲ | ▲ | | | | | | | | | | | | | | | | | |
| Integrated System for Language Education and Training (ISLET) | | | ▲ | ▲ | | | ▲ | ▲ | | | ▲ | ▲ | | | | | | | | | | | | | | | | | |
| Virtual Environment for Ship and Shore Experiential Learning (VESSEL) | | | ▲ | ▲ | | | ▲ | ▲ | | | ▲ | ▲ | | | | | | | | | | | | | | | | | |
| Training/Supply Chain Mgmt Decision Support | | ▲ | ▲ | ▲ | | ▲ | ▲ | ▲ | | ▲ | ▲ | ▲ | | ▲ | ▲ | ▲ | | ▲ | ▲ | ▲ | | ▲ | ▲ | ▲ | | ▲ | ▲ | ▲ | |
| Systeme integration/transition | | ▲ | ▲ | ▲ | | ▲ | ▲ | ▲ | | ▲ | ▲ | ▲ | | ▲ | ▲ | ▲ | | ▲ | ▲ | ▲ | | ▲ | ▲ | ▲ | | ▲ | ▲ | ▲ | |
| Improved Manpower and Personnel Integration Tool | | ▲ | ▲ | ▲ | | ▲ | ▲ | ▲ | | ▲ | ▲ | ▲ | | ▲ | ▲ | ▲ | | ▲ | ▲ | ▲ | | ▲ | ▲ | ▲ | | ▲ | ▲ | ▲ | |
| FNWC CM Refresh early prototypes | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | |
| Training Capacity Tradeoff Model | | ▲ | ▲ | ▲ | | ▲ | ▲ | ▲ | | ▲ | ▲ | ▲ | | ▲ | ▲ | ▲ | | ▲ | ▲ | ▲ | | ▲ | ▲ | ▲ | | ▲ | ▲ | ▲ | |
| WCM Enhancements | | ▲ | ▲ | ▲ | | ▲ | ▲ | ▲ | | ▲ | ▲ | ▲ | | ▲ | ▲ | ▲ | | ▲ | ▲ | ▲ | | ▲ | ▲ | ▲ | | ▲ | ▲ | ▲ | |
| DARPA Digital Tutor | | ▲ | ▲ | ▲ | | ▲ | ▲ | ▲ | | ▲ | ▲ | ▲ | | ▲ | ▲ | ▲ | | ▲ | ▲ | ▲ | | ▲ | ▲ | ▲ | | ▲ | ▲ | ▲ | |
| Recruiting Model | | | ▲ | ▲ | | | ▲ | ▲ | | | ▲ | ▲ | | | ▲ | ▲ | | | ▲ | ▲ | | | ▲ | ▲ | | | ▲ | ▲ | |
| Global Force Mgmt Data Initiative | | | | ▲ | | | | ▲ | | | | ▲ | | | | ▲ | | | | ▲ | | | | ▲ | | | | ▲ | |
| Demonstration | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Prototype & Documentation | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

R-1 SHOPPING LIST - Item No. 117

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604703N: <i>Personnel, Trng, Sim, & Human Factors</i> | PROJECT 1822: <i>Manpower Pers & Human Fact System</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 1822 | | | | |
| Future Naval Warfighter Capabilities (FNWC) Capable Manpower products | 1 | 2010 | 4 | 2012 |
| Integrated System for Language Education and Training (ISLET) | 1 | 2010 | 4 | 2012 |
| Virtual Environment for Ship and Shore Experiential Learning (VESSEL) | 1 | 2010 | 4 | 2011 |
| Training/Supply Chain Mgmt Decision Support System integration/transition | 1 | 2010 | 4 | 2016 |
| Improved Manpower and Personnel Integration Tool | 1 | 2010 | 4 | 2016 |
| FNWC CM Refresh early prototypes | 1 | 2010 | 4 | 2016 |
| Training Capacity Tradeoff Model | 1 | 2010 | 4 | 2016 |
| WCM Enhancements | 1 | 2010 | 4 | 2016 |
| DARPA Digital Tutor | 1 | 2010 | 4 | 2012 |
| Recruiting Model | 1 | 2011 | 1 | 2016 |
| Global Force Mgmt Data Initiative | 1 | 2012 | 1 | 2016 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604703N: <i>Personnel, Trng, Sim, & Human Factors</i> | PROJECT 9999: <i>Congressional Adds</i> |
|---|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 9999: <i>Congressional Adds</i> | 0.797 | - | - | - | - | - | - | - | - | 0.000 | 0.797 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

This Advanced Skills Management (ASM) system tracks individual skills, certifications, and training plans in the workforce, enabling the automation of the repetitive and labor intensive job of building and managing functional teams of personnel across commands and defining teams made up of logical groupings of skills which align mission requirements with staffing capabilities.

ASM is currently used by 56,000 Navy Sailors and Marines. Funding allows the Workforce Readiness Planning-Team enhancement to be completed.

B. Accomplishments/Planned Programs (\$ in Millions)

| | FY 2010 | FY 2011 |
|--|---------|---------|
| Congressional Add: Workforce Requirements Planning - Team Enhancement | 0.797 | - |
| FY 2010 Accomplishments: N/A | | |
| Congressional Adds Subtotals | 0.797 | - |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

Congressional Add

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604727N: <i>Joint Standoff Weapon Systems</i> |
|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| Total Program Element | 9.673 | 12.567 | 7.506 | - | 7.506 | 0.498 | 0.510 | 0.521 | 0.533 | Continuing | Continuing |
| 2068: <i>Joint Standoff Weapon (JSOW)</i> | 9.673 | 12.567 | 7.506 | - | 7.506 | 0.498 | 0.510 | 0.521 | 0.533 | Continuing | Continuing |

Note

The JSOW Telemetry Instrumentation Kit (TIK) planned accomplishment has been removed due to analysis indicating that the JSOW program has sufficient TIK Crypto components to meet current requirements.

A. Mission Description and Budget Item Justification

The Joint Standoff Weapon (JSOW) is an air-to-ground weapon designed to attack a variety of targets during day, night and adverse weather conditions. JSOW will enhance aircraft survivability as compared to current interdiction weapon systems by providing the capability for launch aircraft to standoff outside the range of most target area surface-to-air threat systems. The JSOW launch-and-leave capability will allow several target kills per aircraft sortie. The JSOW program first developed a baseline weapon for use against fixed area targets. JSOW is a Navy-led joint Navy/Air Force program.

The JSOW Baseline (AGM-154A) variant includes a kinematically efficient airframe, an integrated Inertial/Global Positioning System navigation capability, and a BLU-97/B or BLU-111 payload. This weapon was designed up front for pre-planned product improvements. Procurement of JSOW-A in the FYDP is deferred pending a fix to the Unexploded Ordnance issue or a change in the inventory levels. The JSOW BLU-108 (AGM-154B) variant incorporates the Sensor Fuze Weapon submunition (BLU-108) into the baseline vehicle. Planned production of the JSOW/BLU-108 is deferred pending a change in the threat. The JSOW Unitary (AGM-154C) variant has a terminal seeker, Autonomous Target Acquisition capability, and a Broach lethal package to enable the attack of blast/fragmentation and penetration type targets. The JSOW Unitary provides increased accuracy and lethality and the capability for aimpoint selection. Operational Testing of the JSOW-C was successfully completed in December 2004. Approval for Milestone-III/Full Rate Production (FRP) was granted on 20 December 2004. JSOW-C Initial Operational Capability (IOC) was achieved in February 2005.

FY 2010-2012 includes funding to integrate new functionality into the Joint Mission Planning Systems (JMPS) and Common Unique Planning Component (CUPC). FY 2010-2012 also includes funding for development, integration, qualification and follow-on developmental/operational test and evaluation of a Network Enabled Weapon (NEW) moving target capability into the JSOW Unitary weapon (AGM-154C-1). The moving target capability will be integrated as an Engineering Change Proposal beginning with FY 2009 procured JSOW-C weapons. The new AGM-154C-1 capability will enable the weapon to attack sea moving targets via real-time pre-and post-launch targeting updates. JSOW will also continue to develop and improve software to increase seeker and guidance performance.

JSOW utilizes a "common truck" for both AGM-154A and AGM-154C variants. Through adherence to international standards for weapons interfaces, weight, and dimension considerations, JSOW is compatible with Air Force and NATO aircraft.

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604727N: <i>Joint Standoff Weapon Systems</i> |
|---|---|

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 9.980 | 12.567 | 0.524 | - | 0.524 |
| Current President's Budget | 9.673 | 12.567 | 7.506 | - | 7.506 |
| Total Adjustments | -0.307 | - | 6.982 | - | 6.982 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | - | - | | | |
| • SBIR/STTR Transfer | -0.298 | - | | | |
| • Program Adjustments | - | - | 7.099 | - | 7.099 |
| • Section 219 Reprogramming | -0.009 | - | - | - | - |
| • Rate/Misc Adjustments | - | - | -0.117 | - | -0.117 |

Change Summary Explanation

Technical: Not applicable.

Schedule:

- 1) JSOW FRP-7 award changed from 2Q FY 2011 to 3Q FY 2011 due to anticipated contract negotiations.
- 2) JSOW FRP-8 award changed from 1Q FY 2012 to 3Q FY 2012 due to anticipated contract negotiations.
- 3) JSOW FRP-9 award changed from 1Q FY 2013 to 2Q FY 2013 due to anticipated contract negotiations.
- 4) JSOW FRP-10 award changed from 1Q FY 2014 to 2Q FY 2014 due to anticipated contract negotiations.
- 5) JSOW FRP-11 award changed from 1Q FY 2015 to 2Q FY 2015 due to anticipated contract negotiations.
- 6) JSOW FRP-4 deliveries changed from ending 2Q FY 2010 to ending 3Q FY 2010.
- 7) JSOW FRP-5 deliveries changed from starting 2Q FY 2010 to 1Q FY 2011 due to delays in delivery schedule and subsequent over target rebaseline of the development program.
- 8) JSOW FRP-6 deliveries changed from starting 2Q FY 2011 to 4Q FY 2011 due to delays in delivery schedule and subsequent over target rebaseline of the development program.
- 9) JSOW FRP-7 deliveries changed from starting 2Q FY 2012 to 3Q FY 2012 due to delays in delivery schedule and subsequent over target rebaseline of the development program.
- 10) JSOW FRP-8 deliveries changed from starting 2Q FY 2013 to 3Q FY 2013 due to change in delivery schedule of GFE materials to prime contractor.
- 11) JSOW FRP-9 deliveries changed from starting 2Q FY 2014 to 3Q FY 2014 due to change in delivery schedule of GFE materials to prime contractor.
- 12) JSOW FRP-10 deliveries changed from starting 2Q FY 2015 to 3Q FY 2015 due to change in delivery schedule of GFE materials to prime contractor.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy DATE: February 2011

| APPROPRIATION/BUDGET ACTIVITY | R-1 ITEM NOMENCLATURE |
|---|---|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | PE 0604727N: <i>Joint Standoff Weapon Systems</i> |

- 13) JSOW Network Enabled Weapon/Moving Target/AGM-154C-1 Design/Integration/Qualification changed from 1Q-4Q 2010 to 1Q 2010 - 4Q 2012 resulting from the rebaseline of the JSOW development program.
- 14) JSOW DT&E-I was changed from 1Q - 4Q FY 2010 to 1Q - 4Q FY 2011 due to delayed receipt of necessary hardware.
- 15) JSOW IT&E-I was changed from 1Q - 2Q FY 2011 to 1Q - 2Q FY 2012 due to delayed receipt of necessary hardware.
- 16) JSOW OT-IIIIB was changed from 3Q - 4Q FY 2011 to 1Q FY2013 - 2Q FY 2013 resulting from the rebaseline of the JSOW development program.
- 17) JSOW IOC changed from 3Q FY 2012 to 3Q FY 2013 resulting from the rebaseline of the JSOW development program.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604727N: <i>Joint Standoff Weapon Systems</i> | PROJECT 2068: <i>Joint Standoff Weapon (JSOW)</i> |
|---|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 2068: <i>Joint Standoff Weapon (JSOW)</i> | 9.673 | 12.567 | 7.506 | - | 7.506 | 0.498 | 0.510 | 0.521 | 0.533 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Includes RDT&E funds for the development of a weapon to be employed by aircraft to attack targets during day, night, and adverse weather conditions. The Advanced Interdiction Weapon Systems (AIWS) design will capitalize on aircraft sensor capabilities and minimize individual weapon sophistication, reducing unit cost and provides a significant increase in strike warfare capability. Excludes civilian and military manpower and their related costs and military construction costs which are included in appropriate management and support elements in this program.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|--|-----------------------|------------------------|-----------------------|
| <p>Title: Network Enabled Weapon (NEW)</p> <p align="right">Articles:</p> <p>Description: Develop and integrate the NEW moving target capability into JSOW-C, termed AGM-154C-1.</p> <p>FY 2010 Accomplishments: Commenced weapon qualification and follow-on Developmental Test/Operational Test (DT/OT) efforts.</p> <p>FY 2011 Plans: Includes funding to complete weapon qualification and follow-on DT/OT efforts.</p> <p>FY 2012 Plans: Includes funding to complete weapon qualification and follow-on DT/OT efforts.</p> | <p>9.580</p> <p>0</p> | <p>11.897</p> <p>0</p> | <p>7.337</p> <p>0</p> |
| <p>Title: JSOW Common Unique Planning Component (CUPC)</p> <p align="right">Articles:</p> <p>Description: Plan new functions into the JSOW CUPC and develop new software releases. Address new mission planning functionality related to the incorporation of the NEW moving target capability into the JSOW-C-1 weapons.</p> <p>FY 2010 Accomplishments: Continued integration of JSOW C-1 functionality.</p> <p>FY 2011 Plans:</p> | <p>0.093</p> <p>0</p> | <p>0.670</p> <p>0</p> | <p>0.169</p> <p>0</p> |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604727N: <i>Joint Standoff Weapon Systems</i> | PROJECT 2068: <i>Joint Standoff Weapon (JSOW)</i> |
|---|---|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| Begin interoperability efforts for JSOW C-1. | | | |
| <i>FY 2012 Plans:</i> Continue interoperability efforts for JSOW C-1. | | | |
| Accomplishments/Planned Programs Subtotals | 9.673 | 12.567 | 7.506 |

C. Other Program Funding Summary (\$ in Millions)

| Line Item | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|-----------------------------|---------|---------|-----------------|----------------|------------------|---------|---------|---------|---------|---------------------|------------|
| • USN WP,N BLI 223000: JSOW | 141.997 | 131.141 | 137.722 | 0.000 | 137.722 | 147.923 | 167.117 | 169.572 | 172.048 | 1,434.037 | 4,012.209 |

D. Acquisition Strategy

The contracting strategy for JSOW is planned to be sole source for the life of the program. Cost type contracts are utilized for the Engineering and Manufacturing Development and follow-on modification program (i.e., Block II (AGM-154C), AGM-154C-1) efforts. Component breakout is used, when possible, to promote full and open competition.

Fixed price type contracts are utilized for production.

E. Performance Metrics

The JSOW C-1 program is meeting the cost schedule, performance, funding and life cycle sustainment in accordance with the Acquisition Program Baseline.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604727N: <i>Joint Standoff Weapon Systems</i> | PROJECT 2068: <i>Joint Standoff Weapon (JSOW)</i> |
|---|---|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|--|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Primary Hardware Development-NEW | SS/CPFF | Raytheon Systems:Tucson, AZ | 67.924 | 11.158 | Nov 2010 | 3.338 | Dec 2011 | - | | 3.338 | 0.000 | 82.420 | 83.730 |
| System Engineering | MIPR | National Security Agency:Maryland | 0.340 | 0.359 | Dec 2010 | 0.359 | Jun 2012 | - | | 0.359 | 0.000 | 1.058 | 1.058 |
| System Engineering | WR | Naval Research Lab:Maryland | 0.805 | 0.140 | Dec 2010 | 0.140 | May 2012 | - | | 0.140 | 0.000 | 1.085 | |
| System Engineering | WR | NAWCWD:China Lake, CA | 109.018 | 0.050 | Oct 2010 | 1.000 | Nov 2011 | - | | 1.000 | 0.000 | 110.068 | |
| Prior year cost no longer funded in the FYDP | Various | Various:Various | 601.305 | - | | - | | - | | - | 0.000 | 601.305 | |
| Subtotal | | | 779.392 | 11.707 | | 4.837 | | - | | 4.837 | 0.000 | 795.936 | |

Remarks

The target value of the contract exceeds the JSOW funding because the Harpoon Block III (PE0604227N PU1843) program shares a portion of the Strike Common Weapons Data Link (SCWDL) development costs.

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|--|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Software Development -JMPS | SS/CPFF | Raytheon Systems:Tucson, AZ | 5.445 | 0.670 | Dec 2010 | 0.169 | Dec 2011 | - | | 0.169 | 2.996 | 9.280 | 9.280 |
| Prior year cost no longer funded in the FYDP | Various | Various:Various | 8.007 | - | | - | | - | | - | 0.000 | 8.007 | |
| Subtotal | | | 13.452 | 0.670 | | 0.169 | | - | | 0.169 | 2.996 | 17.287 | |

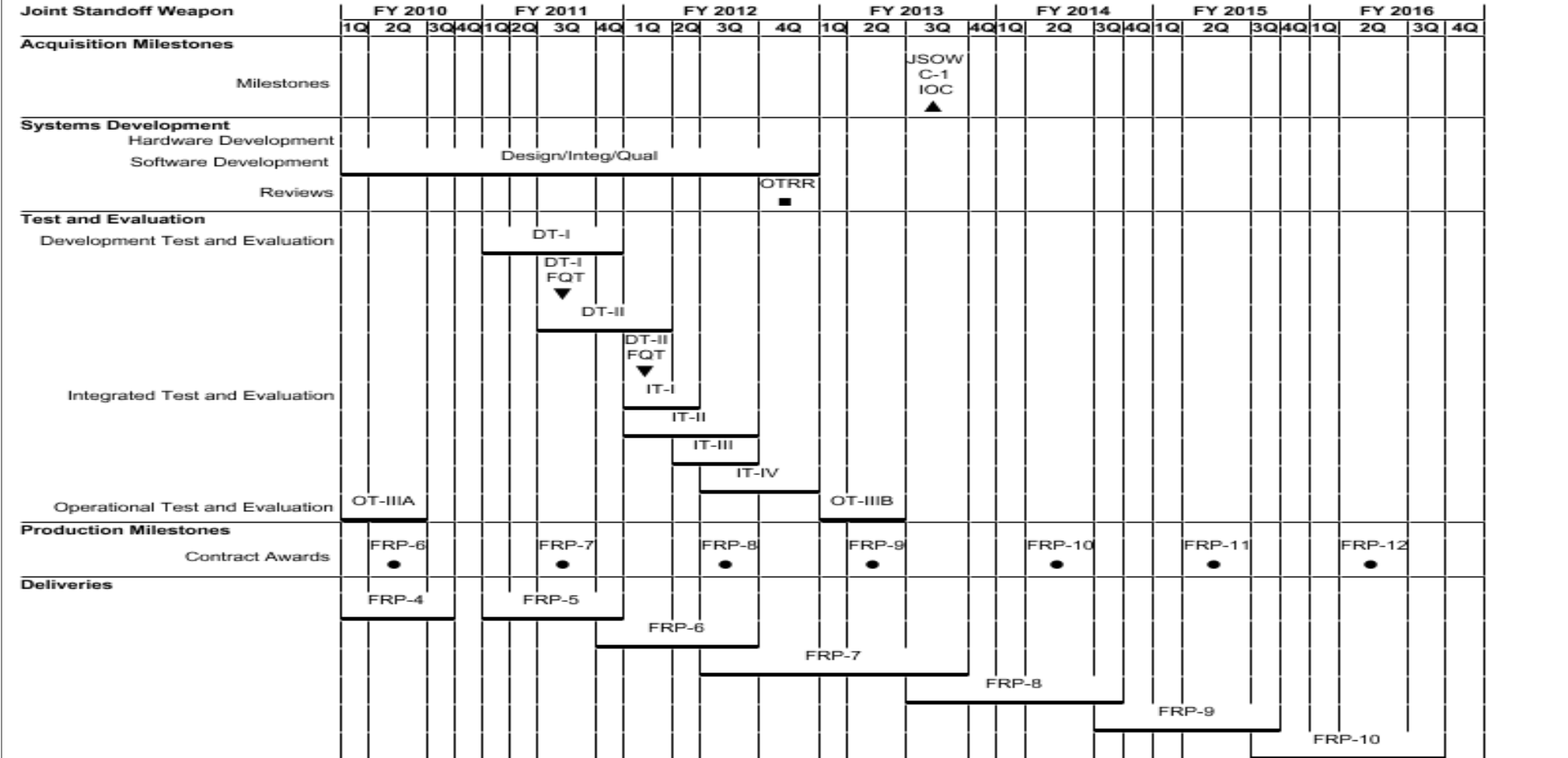
| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Int Test and Evaluation | WR | NAWCWD:China Lake, CA | 27.937 | 0.100 | Dec 2010 | 2.500 | Dec 2011 | - | | 2.500 | 0.000 | 30.537 | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604727N: <i>Joint Standoff Weapon Systems</i> | PROJECT 2068: <i>Joint Standoff Weapon (JSOW)</i> |
|---|---|---|



UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy DATE: February 2011

| APPROPRIATION/BUDGET ACTIVITY | R-1 ITEM NOMENCLATURE | PROJECT |
|---|---|---|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | PE 0604727N: <i>Joint Standoff Weapon Systems</i> | 2068: <i>Joint Standoff Weapon (JSOW)</i> |

FRP-11

2012PB - 0604727N - 2068 FRP-7 begins deliveries mid 3rd Qtr FY12 and ends at the start of 3rd Qtr FY13 maintaining a 12 month delivery period
FRP-8 begins deliveries mid 3rd Qtr FY13 and ends at the start of 3rd Qtr FY14 maintaining a 12 month delivery period
FRP-9 begins deliveries mid 3rd Qtr FY14 and ends at the start of 3rd Qtr FY15 maintaining a 12 month delivery period
FRP-10 begins deliveries mid 3rd Qtr FY15 and ends at the start of 3rd Qtr FY16 maintaining a 12 month delivery period

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604727N: <i>Joint Standoff Weapon Systems</i> | PROJECT 2068: <i>Joint Standoff Weapon (JSOW)</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Joint Standoff Weapon | | | | |
| Acquisition Milestones: Milestones: Initial Operational Capability C-1 | 3 | 2013 | 3 | 2013 |
| Systems Development: Software Development: Network Enabled Weapon/Moving Target/AGM-154C-1 Design/Integration/Qual | 1 | 2010 | 4 | 2012 |
| Systems Development: Reviews: Operational Test Readiness Review | 4 | 2012 | 4 | 2012 |
| Test and Evaluation: Development Test and Evaluation: Network Enabled Weapon/Moving Target/AGM-154C-1 Development Test (DT-I) | 1 | 2011 | 4 | 2011 |
| Test and Evaluation: Development Test and Evaluation: Network Enabled Weapon/Moving Target/AGM-154C-1 Development Test Final Qualification Test (DT-1) | 3 | 2011 | 3 | 2011 |
| Test and Evaluation: Development Test and Evaluation: Network Enabled Weapon/Moving Target/AGM-154C-1 Development Test (DT-II) | 3 | 2011 | 1 | 2012 |
| Test and Evaluation: Development Test and Evaluation: Network Enabled Weapon/Moving Target/AGM-154C-1 Development Test Final Qualification Test (DT-II) | 1 | 2012 | 1 | 2012 |
| Test and Evaluation: Integrated Test and Evaluation: Network Enabled Weapon/Moving Target/AGM-154C-1 Integrated Test (IT-I) | 1 | 2012 | 2 | 2012 |
| Test and Evaluation: Integrated Test and Evaluation: Network Enabled Weapon/Moving Target/AGM-154C-1 Integrated Test (IT-II) | 1 | 2012 | 3 | 2012 |
| Test and Evaluation: Integrated Test and Evaluation: Network Enabled Weapon/Moving Target/AGM-154C-1 Integrated Test (IT-III) | 2 | 2012 | 3 | 2012 |
| Test and Evaluation: Integrated Test and Evaluation: Network Enabled Weapon/Moving Target/AGM-154C-1 Integrated Test (IT-III) | 3 | 2012 | 4 | 2012 |
| Test and Evaluation: Operational Test and Evaluation: Network Enabled Weapon/Moving Target/AGM-154C-1 Development Test (OT-III A) | 1 | 2010 | 2 | 2010 |
| Test and Evaluation: Operational Test and Evaluation: Network Enabled Weapon/Moving Target/AGM-154C-1 Development Test (OT-III B) | 1 | 2013 | 2 | 2013 |

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604727N: <i>Joint Standoff Weapon Systems</i> | PROJECT 2068: <i>Joint Standoff Weapon (JSOW)</i> |

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Production Milestones: Contract Awards: FRP Award AGM-154C FRP-6 | 2 | 2010 | 2 | 2010 |
| Production Milestones: Contract Awards: FRP Award AGM-154C FRP-7 | 3 | 2011 | 3 | 2011 |
| Production Milestones: Contract Awards: FRP Award AGM-154C FRP-8 | 3 | 2012 | 3 | 2012 |
| Production Milestones: Contract Awards: FRP Award AGM-154C FRP-9 | 2 | 2013 | 2 | 2013 |
| Production Milestones: Contract Awards: FRP Award AGM-154C FRP-10 | 2 | 2014 | 2 | 2014 |
| Production Milestones: Contract Awards: FRP Award AGM-154C FRP-11 | 2 | 2015 | 2 | 2015 |
| Production Milestones: Contract Awards: FRP Award AGM-154C FRP-12 | 2 | 2016 | 2 | 2016 |
| Deliveries: FRP-4 Deliveries AGM-154C | 1 | 2010 | 3 | 2010 |
| Deliveries: FRP-5 Deliveries- AGM-154C-1 | 1 | 2011 | 4 | 2011 |
| Deliveries: FRP-6 Deliveries- AGM-154C-1 | 4 | 2011 | 3 | 2012 |
| Deliveries: FRP-7 Deliveries- AGM-154C-1 | 3 | 2012 | 3 | 2013 |
| Deliveries: FRP-8 Deliveries- AGM-154C-1 | 3 | 2013 | 3 | 2014 |
| Deliveries: FRP-9 Deliveries- AGM-154C-1 | 3 | 2014 | 3 | 2015 |
| Deliveries: FRP-10 Deliveries- AGM-154C-1 | 3 | 2015 | 3 | 2016 |
| Deliveries: FRP-11 Deliveries- AGM-154C-1 | 3 | 2016 | 4 | 2016 |

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | | | R-1 ITEM NOMENCLATURE | | | | | | | | |
|---|----------------|----------------|--|--------------------|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | PE 0604755N: <i>Ship Self Def (Detect & Cntrl)</i> | | | | | | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| Total Program Element | 45.307 | 45.930 | 71.222 | - | 71.222 | 73.076 | 66.379 | 53.218 | 51.205 | Continuing | Continuing |
| 0166: <i>SPS Improvement Program</i> | 5.230 | 4.739 | 3.871 | - | 3.871 | 3.480 | 3.585 | - | - | 0.000 | 20.905 |
| 2178: <i>QRCC</i> | 26.925 | 36.594 | 64.360 | - | 64.360 | 67.514 | 60.681 | 51.265 | 49.236 | Continuing | Continuing |
| 3172: <i>Joint Non-Lethal Weapons</i> | 4.089 | 4.597 | 1.334 | - | 1.334 | 0.900 | 0.898 | 0.713 | 0.704 | Continuing | Continuing |
| 3306: <i>Integrated Swimmer Defense (ISD)</i> | - | - | 1.657 | - | 1.657 | 1.182 | 1.215 | 1.240 | 1.265 | Continuing | Continuing |
| 9999: <i>Congressional Adds</i> | 9.063 | - | - | - | - | - | - | - | - | 0.000 | 9.063 |

A. Mission Description and Budget Item Justification

This program element consolidates currently ongoing and planned programmatic efforts related to Detect & Control aspects of Ship Self Defense (SSD) to facilitate effective planning and management of these efforts and to exploit the synergistic relationship inherent in each. Analysis and demonstration have established that surface SSD based on single-sensor detection point-to-point control architecture performs marginally against current and projected Anti-Ship Cruise Missile (ASCM) threats. The supersonic seaskimming ASCM reduces the effective battle space to the horizon and the available reaction time-line to less than 30 seconds from first opportunity to detect until the ASCM impacts its target ship. Against such a threat, multi-sensor integration is required for effective detection, and parallel processing is essential to reduce reaction time to acceptable levels and to provide vital coordination/integration of hardkill and softkill assets. These SSD projects address and coordinate the detect and control functions necessary to meet the rigorous SSD requirements within a development structure dedicated to systems engineering.

DETECTION: Improvements in coordinated sensor performance to increase the probability of detecting low altitude, low observable targets are to be achieved through the synergism gained from the integration of dissimilar sensor sources. Multi-sensor integration is being addressed through the efforts of Quick Reaction Combat Capability (QRCC) (2178), while sensor improvements are addressed through the SPS Improvements (0166). These provide improvements to both active and passive detection.

CONTROL: Multi-sensor integration, parallel processing and the coordination of hardkill/softkill capabilities in an automated, doctrine-based response to the ASCM threats are the cornerstones of Ship Self Defense System (SSDS) being developed through QRCC (2178) efforts. In addition, that project provides for the central system engineering management of SSD developments, including efforts required to integrate SSDS with the Advanced Combat Direction System (ACDS) functionality for those ships having a CDS with the Open Architecture Computing Environment and with advanced sensor, weapon and C4I upgrades.

Shipboard Protection System (SPS) develops an integrated shipboard, suite of systems designed to detect, identify, and engage asymmetric surface threats.

Integrated Swimmer Defense (ISD) scope is to provide the Navy Expeditionary security forces with capabilities of a portable marine integrated swimmer defense system (ISDS) to engage combat swimmers/divers or unknown individuals underwater once they have been detected.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|--|
| APPROPRIATION/BUDGET ACTIVITY | R-1 ITEM NOMENCLATURE |
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> | PE 0604755N: <i>Ship Self Def (Detect & Cntrl)</i> |
| BA 5: <i>Development & Demonstration (SDD)</i> | |

Non-Lethal Weapons provides a long range laser warning and dazzle systems for use in the maritime environment. Optical warning and distraction has been identified by the services as a possible technology solution to mitigate and/or address several known joint non-lethal capability gaps.

FY10 Congressional Adds: 9C23A - Expeditionary Swimmer Defense, 9C22A - Autonomous Unmanned Surface Vessel, and 9D90A - Persistent Surveillance Wave Power-Buoy System.

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 44.374 | 45.930 | 41.409 | - | 41.409 |
| Current President's Budget | 45.307 | 45.930 | 71.222 | - | 71.222 |
| Total Adjustments | 0.933 | - | 29.813 | - | 29.813 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | 2.516 | - | | | |
| • SBIR/STTR Transfer | -1.221 | - | | | |
| • Program Adjustments | - | - | 31.640 | - | 31.640 |
| • Section 219 Reprogramming | -0.361 | - | - | - | - |
| • Rate/Misc Adjustments | - | - | -1.827 | - | -1.827 |
| • Congressional General Reductions Adjustments | -0.001 | - | - | - | - |

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 9999: Congressional Adds

- Congressional Add: *Autonomous Unmanned Surface Vessel (AUSV)(xfer fro*
- Congressional Add: *Expeditionary Swimmer Defense System*
- Congressional Add: *Persistent Surveillance Wave Power-Buoy System*

Congressional Add Subtotals for Project: 9999

Congressional Add Totals for all Projects

| | FY 2010 | FY 2011 |
|---|----------------|----------------|
| | 2.689 | - |
| | 3.187 | - |
| | 3.187 | - |
| Congressional Add Subtotals for Project: 9999 | 9.063 | - |
| Congressional Add Totals for all Projects | 9.063 | - |

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy DATE: February 2011

| | |
|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604755N: <i>Ship Self Def (Detect & Cntrl)</i> |
|---|--|

Change Summary Explanation

The increase in funding in FY12 through FY16 is for the development of new capabilities for the CVN-78 class ships to integrate new Combat System components with SSDS MK2, designated as SSDS MK2 MOD 6C ACB12/TI12. These Combat System components include a Dual Band Radar (DBR), SEWIP Block 2 ES, ESSM with JUWL uplink, MH-60R, and common product line software components for system track management and vehicle control. In CVN 78, DBR replaces all air search/air traffic control radars and missile fire control illuminators. Full integration with the SSDS MK2 combat management system is critical to support mission requirements for situational awareness, combat direction, self defense, air control, and air traffic control. The integration effort requires comprehensive Combat System integration testing and land-based developmental testing with DBR and other Combat System elements. The initial land-based integration testing will begin in FY12 and will progress to developmental testing in FY14, based on the SSDS MK2 software build schedule. Operator and maintenance training course development for SSDS MK2 MOD 6C Advance Capability Build (ACB)12/Technical Insertion (TI)12 will also be initiated in FY12. Selected new capabilities that are being developed for CVN 78 ACB12 will also be implemented in CVN 68 class ships based on their specific combat system components.

Added FY 10 funds to address MH-60R and SEWIP Block 2 capability integration into SSDS MK 2 SCB 12 baseline

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604755N: <i>Ship Self Def (Detect & Cntrl)</i> | PROJECT 0166: <i>SPS Improvement Program</i> |
|---|--|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--------------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 0166: <i>SPS Improvement Program</i> | 5.230 | 4.739 | 3.871 | - | 3.871 | 3.480 | 3.585 | - | - | 0.000 | 20.905 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Shipboard Protection System (SPS) develops an integrated shipboard, suite of systems designed to detect, identify, and engage asymmetric surface threats. Capabilities include: Surface Surveillance System, MK 49 stabilized gun mounts and Non-Lethal weapons/devices. The surface surveillance system integrates EO/IR sensors, and radar into a common tactical surveillance system. Stabilized guns: provide integrated lethal engagement capability against asymmetric threats. Non-lethal weapons: NLW assist in determining intent and target discrimination. SPS is to be fielded in blocks through evolutionary acquisition. The block approach facilitates the early delivery of enhanced situational awareness capability. Future blocks will introduce lethal and non-lethal effectors with total detect to engage capability integration. The SPS 'End State System' will provide Navy vessels with the ability, in foreign and domestic ports, to protect themselves from attacks by asymmetric surface threats. This ability requires that information necessary to seamlessly execute the detect-to-engage sequence be collected, processed, communicated, and acted upon before threats reach their objectives. Due to the requirement for 360 degree coverage for situational awareness and engagement, design variants are required to ensure coverage requirements are met for larger (CVN, LHA, LHD) as well as smaller (DDG, CG, LSD, LPD) platforms.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| Title: SPS Improvement Program | 5.230 | 4.739 | 3.871 |
| Articles: | 0 | 0 | 0 |
| FY 2010 Accomplishments: Shipboard Protection System - System design for other ship classes, integration with MK38 Mod 2 system. | | | |
| FY 2011 Plans: Shipboard Protection System - System design for other ship classes, integration with MK38 Mod 2 system. | | | |
| FY 2012 Plans: Shipboard Protection System - System design for other ship classes; developmental test events for previously designed systems. | | | |
| Accomplishments/Planned Programs Subtotals | 5.230 | 4.739 | 3.871 |

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604755N: <i>Ship Self Def (Detect & Cntrl)</i> | PROJECT 0166: <i>SPS Improvement Program</i> |

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> | | | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> | |
|--------------------------------|----------------|----------------|----------------|------------|--------------|----------------|----------------|----------------|----------------|-----------------|-------------------|
| | | | <u>Base</u> | <u>OCO</u> | <u>Total</u> | | | | | <u>Complete</u> | <u>Total Cost</u> |
| • OPN/8128: <i>SPS Program</i> | 19.198 | 32.472 | 31.291 | 0.000 | 31.291 | 36.320 | 35.417 | 52.209 | 53.091 | 0.000 | 259.998 |

D. Acquisition Strategy

Revised acquisition strategy is to provide capability to the fleet in blocks. (Block 1 - Enhanced Situational Awareness and Block 3 - Total System Integration including Lethal and Non-Lethal Engagement). All work is being led and performed by the Warfare Centers.

E. Performance Metrics

Successfully achieved Milestone C. Successfully conduct SPS Block 3 Release 2 Critical Design Review (CDR).

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604755N: <i>Ship Self Def (Detect & Cntrl)</i> | PROJECT 0166: <i>SPS Improvement Program</i> |
|---|--|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Hardware/Software Development (Crane) | WR | NSWC Crane:Crane IN | 2.377 | 1.000 | Nov 2010 | 1.000 | Nov 2011 | - | | 1.000 | 0.000 | 4.377 | |
| Hardware/Software Development (Dahlgren) | WR | NSWC Dahlgren:Dahlgren VA | 4.443 | 1.000 | Nov 2010 | 1.000 | Nov 2011 | - | | 1.000 | 0.000 | 6.443 | |
| Hardware/Software Development (NG) | Various | NORTHROP GRUMMAN:Not Specified | 0.236 | - | | - | | - | | - | 0.000 | 0.236 | |
| Hardware/Software Development (NAVAIR) | WR | NAVAIR/KDH:Pax River MD | 0.200 | - | | - | | - | | - | 0.000 | 0.200 | |
| Subtotal | | | 7.256 | 2.000 | | 2.000 | | - | | 2.000 | 0.000 | 11.256 | |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Engineering Services (CRANE) | WR | NSWC CRANE:Crane IN | 1.807 | 0.519 | Nov 2010 | 0.400 | Nov 2011 | - | | 0.400 | 0.000 | 2.726 | |
| Engineering Services (DAHLGREN) | WR | NSWC DAHLGREN:Dahlgren VA | 1.401 | 0.720 | Nov 2010 | 0.411 | Nov 2011 | - | | 0.411 | 0.000 | 2.532 | |
| Engineering Services (IWS) | C/FPIF | IWS PERISCOPE DETECT:Not Specified | 4.193 | - | | - | | - | | - | 0.000 | 4.193 | |
| ILS FUNCTIONS | WR | NSWC DAHLGREN:Dahlgren VA | 1.680 | 1.000 | Nov 2010 | 0.500 | Nov 2011 | - | | 0.500 | 0.000 | 3.180 | |
| Subtotal | | | 9.081 | 2.239 | | 1.311 | | - | | 1.311 | 0.000 | 12.631 | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604755N: <i>Ship Self Def (Detect & Cntrl)</i> | PROJECT 0166: <i>SPS Improvement Program</i> |
|---|--|--|

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| T&E FUNCTIONS (COTF) | WR | COMOPTEVFOR:Norfolk VA | 0.618 | - | | - | | - | | - | 0.000 | 0.618 | |
| T&E FUNCTIONS (Dahlgren) | WR | NSWC DAHLGREN:Dahlgren VA | 1.248 | 0.250 | Nov 2010 | 0.250 | Nov 2011 | - | | 0.250 | 0.000 | 1.748 | |
| T&E FUNCTIONS (Crane) | WR | NSWC CRANE:Crane IN | 0.664 | 0.250 | Nov 2010 | 0.250 | Nov 2011 | - | | 0.250 | 0.000 | 1.164 | |
| Subtotal | | | 2.530 | 0.500 | | 0.500 | | - | | 0.500 | 0.000 | 3.530 | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| MANAGEMENT SUPPORT | Various | VARIOUS:VARIOUS | 0.299 | - | | - | | - | | - | 0.000 | 0.299 | |
| TRAVEL | Various | Not Specified:Not Specified | 0.168 | - | | 0.060 | Nov 2011 | - | | 0.060 | 0.000 | 0.228 | |
| DAWDF | Various | Not Specified:Not Specified | 0.008 | - | | - | | - | | - | 0.000 | 0.008 | |
| Subtotal | | | 0.475 | - | | 0.060 | | - | | 0.060 | 0.000 | 0.535 | |

| | Total Prior Years Cost | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|-------------------------------|----------------|-------|---------------------|-------|--------------------|---|----------------------|-------------------------|-------------------|---------------------------------|
| Project Cost Totals | | 19.342 | 4.739 | | 3.871 | | - | 3.871 | 0.000 | 27.952 | |

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604755N: *Ship Self Def (Detect & Cntrl)*

PROJECT

0166: *SPS Improvement Program*

| Proj 0166 | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | | | | | |
|-------------------------------|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|--|--|--|--|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | | | | |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Program Phases | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test and Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Development Test | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operational Test | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604755N - 0166

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604755N: <i>Ship Self Def (Detect & Cntrl)</i> | PROJECT 0166: <i>SPS Improvement Program</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 0166 | | | | |
| Acquisition Milestones: IOC | 4 | 2014 | 4 | 2014 |
| Acquisition Milestones: FRP | 4 | 2014 | 4 | 2014 |
| Program Phases: L PLATFORM DEV | 1 | 2010 | 4 | 2010 |
| Program Phases: CG PLATFORM DEV | 1 | 2012 | 4 | 2012 |
| Program Phases: CVN PLATFORM DEV | 1 | 2011 | 4 | 2011 |
| Program Phases: LHD/LHA PLATFORM DEV | 2 | 2013 | 1 | 2014 |
| Test and Evaluation: Development Test: DT-C1 (DDG) | 2 | 2011 | 3 | 2011 |
| Test and Evaluation: Development Test: DT-C2 (L-class) | 3 | 2012 | 4 | 2012 |
| Test and Evaluation: Development Test: DT-C3 (CVN) | 1 | 2016 | 2 | 2016 |
| Test and Evaluation: Operational Test: OT (DDG) | 2 | 2014 | 3 | 2014 |
| Test and Evaluation: Operational Test: OT (L-class) | 3 | 2015 | 4 | 2015 |
| Test and Evaluation: Operational Test: OT (CVN) | 3 | 2016 | 4 | 2016 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|-------------------------------------|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604755N: <i>Ship Self Def (Detect & Cntrl)</i> | PROJECT 2178: <i>QRCC</i> |
|---|--|-------------------------------------|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|----------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 2178: <i>QRCC</i> | 26.925 | 36.594 | 64.360 | - | 64.360 | 67.514 | 60.681 | 51.265 | 49.236 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

The Quick Reaction Combat Capability (QRCC) project implements an evolutionary acquisition of improved ship self defense capabilities against Anti-Ship Cruise Missiles (ASCMs) for selected ships. The Ship Self Defense System (SSDS) is the integrating element of QRCC. The design integrates several existing stand-alone Anti-Air Warfare (AAW) systems that do not individually provide the complete detection, control, and engagement capabilities needed against low flying, high speed ASCMs with low radar cross sections. The SSDS integration concept fulfills the need for an automated detection, quick reaction and multi-target engagement capability emphasizing performance in the littoral environment. SSDS replaces manual control of several self-defense systems with a single integrated capability under the computer-aided control of ship operators. System design emphasizes use of non-developmental items, commercial standards, commercial processors, computer program reuse and open system architecture. SSDS is a physically distributed, open system architecture computer network consisting of commercially available or previously developed hardware. It includes the Navy's standard displays (AN/UYQ-70 and Common Display System) and command table for human-system interface, commercially based local area network access units and interface units, and commercially available fiber optic cabling.

SSDS MK1 integrates the SPS-49A(V)1 radar, SPS-67(V)1 radar, AN/SLQ-32A/B electronic warfare system, Combat Identification Friend or Foe-Self Defense (CIFF-SD), Rolling Airframe Missile (RAM) and Phalanx Close-In Weapon System and is installed on LSD41/49 class ships. SSDS MK1 successfully completed Operational Evaluation in June 1997. SSDS received Milestone III Approval for Full Rate Production (Mar 98) and authority to integrate with ACDS and Cooperative Engagement Capability (CEC) on CVN, LPD-17, LHD and LHA ship classes.

SSDS MK2 facilitates the incremental evolution and implementation of follow-on modifications. Development of SSDS MK2 leveraged critical experiments and re-use of technology and software from SSDS MK1. SSDS MK2 integrates other ship self defense elements, such as AN/SPQ-9B radar, NATO Sea-sparrow system, CEC and Tactical Data Links for joint interoperability. SSDS MK2 provides enhanced capabilities for Self Defense against air, and surface threats using both ownship and remote data to address AAW Capstone requirements. SSDS MK2 becomes the integrated, coherent real time Command and Control System for Aircraft Carriers and Amphibious ships. It will increase operational capabilities; improve combat readiness and Strike Group/Expeditionary Strike Group Interoperability; and promote standardization. It introduces new shipboard tactical displays and support equipment via Tech Insertion and warfighting capability improvements via Advanced Capability Builds (ACB). The Advanced Capability Builds integrate advanced systems such as Evolved Sea-Sparrow Missile, RAM Block 2 missile, SLQ-32 SEWIP Block 2 and MH-60R Helicopter to implement the warfighting capability improvements.

In order to meet the Navy's warfighting capabilities and modernization concepts described in SEA POWER 21, Navy Open Architecture (NOA) is being introduced in conjunction with SSDS P3I COTS Tech Refresh. This is the first step in unifying a set of war fighting functions into a single architecture shared among many ship classes. This principle of commonality is a major mechanism for cost control and avoidances in the Navy's future war fighting systems. Starting in 2008, SSDS MK 2 was rehosted existing tactical computer program applications to the Open Architecture Computing Environment (OACE) specifications/ equipment suite concurrent with P3I Commercial off the Shelf (COTS) Tech Insertion (TI) cycles, prior to migration and integration with other OA applications for implementation on future

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|-------------------------------------|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604755N: <i>Ship Self Def (Detect & Cntrl)</i> | PROJECT 2178: <i>QRCC</i> |
|---|--|-------------------------------------|

new construction ships or during future ship modernization. Tech Insertion cycles and equipment tech refresh are driven by COTS obsolescence. In FY09, system development was initiated for SSDS MK1 Technology Refresh for the LSD 41/49 class ships. The effort will transition these ships to an SSDS MK Open Architecture Computing Environment and SSDS MK 2 single source library. New system designation is SSDS MK2 Mod 5C. The system development effort encompasses tech insertion of new OA computing and display equipment (Common Processor System (CPS) and Common Display System (CDS)), modifications and additions to the SSDS MK 2 software for an upgraded interface with the Phalanx CIWS Block 1B Baseline 2 and BFTT, and other unique LSD SSDS interfaces and functionality. The first LSD SSDS MK 2 Mod 5C is programmed for FY12 installation after land-based Combat System Integration and Certification Testing with IOC in FY13. In FY10, SSDS MK 2 system development commenced for the first phase of migration to the Navy OA objective functional architecture designated as SSDS MK 2 ACB-12/ TI-12. ACB-12/TI-12 encompasses: implementation of common product line software components for System Track Management and Vehicle Control; integration of the product line System Track Management components and associated data model with other SSDS software components and Combat System interfaces (e.g. CEC, Dual Band Radar, ESSM and JUWL up-link, RAM Block 2 and CV-TSC); integration of new interfaces with SEWIP Block 2 ES, MH-60R and GCCS-M via CANES; integration of Common Processors System and Common Display System; and expansion of SSDS MK 2 LAN to OA Combat System LAN. ACB-12/TI-12 is planned for IOC in CVN 68 class ship in FY14 and in the CVN 78 in FY16. In FY11, advanced planning and analysis will be undertaken to support the initiation of the system development effort for SSDS MK 2 ACB-16/TI-16 in FY12. ACB-16 warfighting improvement candidates include SEWIP Block 3 EA, IFF Mode S, ESSM and RAM upgrades, advanced vehicle control capabilities for MH-60R and unmanned vehicles, ASW improvements and GCCS-M Data Exchange via CANES. TI-16 will include COTS Hardware and Software Tech Insertion candidates for computing, display, network switching, interfaces and information assurance devices to support system and equipment modernization driven by COTS obsolescence. IOC for ACB-16/TI-16 is planned for FY17.

The initial Development Test and Evaluation (DT&E) and Follow On Operational Test and Evaluation (FOT&E) for SSDS MK 2 was conducted with the CVN 76 SSDS MK 2 Mod 1 configuration in FY05. In FY07, the SSDS MK 2 FOT&E requirements were linked with the Air Warfare Ship Self Defense Enterprise T&E initiative to combine At-Sea Combat System element DT&E and OT&E requirements to synergize the resources required for testing in the SSDS MK 2 ships and the Self Defense Test Ship. The LPD-17 class SSDS MK 2 Mod 2 FOT&E was conducted in FY07/FY08 as part of the Enterprise T&E initiative. Live fire, Combat System end-to-end testing was conducted against Anti Ship Cruise Missile targets in the Self Defense Test Ship in FY07/08/09 in the CVN/LHD/LPD configurations. FOT&E of ESSM integration with SSDS MK 2 was initiated in the CVN class in FY08 and will extend through FY10. FOT&E for the CVN class SSDS MK 2 Mod 1B P3I OACE COTS Tech Insertion was conducted in FY09. Future FOT&E includes the LHA 6 SSDS MK 2 Mod 4B configuration with the RAM Block 2 missile, the LSD SSDS MK 2 Mod 5C configuration with the Phalanx CIWS 1B Baseline 2 system, and CVN 78 SSDS MK 2 Mod 6C configuration with the Dual Band Radar, SEWIP Block 2 ES, ESSM with JUWL up-link, and RAM Block 2.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|---|------------------------|------------------------|------------------------|
| <p>Title: SSDS MK2 Development Test & Evaluation</p> <p style="text-align: right;">Articles:</p> <p>FY 2010 Accomplishments: Prepare and conduct comprehensive Combat System tests for Combat System/SSDS MK 2 hardware/software upgrades for the CVN, LPD 17 and LHD ship classes. This includes Land Based testing at Wallops Island and At-Sea testing in the lead ships for specific ship class Combat System configuration, and testing in the Self Defense Test Ship. The testing encompasses test preparation, integration, engineering and development tests, data collection and analysis, and resolution and verification of</p> | <p>12.370</p> <p>0</p> | <p>13.161</p> <p>0</p> | <p>17.341</p> <p>0</p> |

UNCLASSIFIED

UNCLASSIFIED

| | | | |
|---|--|-------------------------------------|----------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604755N: <i>Ship Self Def (Detect & Cntrl)</i> | PROJECT 2178: <i>QRCC</i> | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 |
| <p>deficiency corrections. The SSDS MK 2 T&E supports Combat System certification, the SSDS TEMP and the Air Warfare Ship Self Defense CAPSTONE Enterprise TEMP.</p> <p>FY10 Land Based testing includes testing for the Linux Operating System upgrade for the CVN 68 class SSDS MK 2 Mod 1B P3I OACE COTS Tech Insertion configuration. At-Sea testing includes: Enterprise test events in the LHD 8 SSDS MK 2 Mod 3A configuration with NSSMS Surface Engagements; CVN 70 SSDS MK 2 Mod 1A configuration with ESSM Engagements; CVN 76 SSDS MK 2 Mod 1B configuration with Strike Group Interoperability Tests; and Self Defense Test Ship CVN SSDS MK 2 Mod 1A configuration with ESSM/RAM Engagements.</p> <p>FY 2011 Plans: Prepare and conduct comprehensive Combat System test for Combat System and SSDS MK 2 hardware/software upgrades for the CVN, LPD 17, LHD, LHA 6 and LSD ship classes. This includes Land Based testing at Wallops Island and At-Sea testing in the lead ships for specific ship class Combat System configuration and testing in the Self Defense Test Ship. The testing encompasses test preparation, integration, engineering and development tests, data collection and analysis, and resolution and verification of deficiency corrections. The SSDS MK 2 T&E support Combat System certification, the SSDS TEMP and the Air Warfare Ship Self Defense CAPSTONE Enterprise TEMP.</p> <p>FY11 Land-Based testing includes: Initial system integration and engineering test for RAM Block 2 integration in the CVN 71/LPD 24/LHA 6 SSDS MK 2 Mod 1B/2B/4B configurations with the Linux OACE, and initial system integration and engineering tests for the LSD SSDS Mk 2 Mod 5C configuration with the Phalanx CIWS Block 1B Baseline 2, RAM Block 2 and CPS/CDS equipment.</p> <p>FY 2012 Plans: Prepare and conduct comprehensive Combat System test for Combat System and SSDS MK 2 hardware/software upgrades for the CVN, LPD 17, LHD, LHA 6, LSD and CVN 78 ship classes. This includes Land Based testing at Wallops Island and At-Sea testing in the lead ships for specific ship class Combat System configuration and testing in the Self Defense Test Ship. The testing encompasses test preparation, integration, engineering and development tests, data collection and analysis, and resolution and verification of deficiency corrections. The SSDS MK 2 T&E support Combat System certification, the SSDS TEMP and the Air Warfare Ship Self Defense CAPSTONE Enterprise TEMP.</p> <p>FY12 Land Based testing includes: Development Testing for the LHA 6 SSDS MK 2 Mod 4B configuration with RAM Block 2, ESSM and Linux Operating System; and initial CVN 78 SSDS MK 2 Mod 6C testing with the Dual Band Radar, CEC, TPX-42, STM, CPS/CDS and Combat System LAN. At-Sea testing is focused on the LHA 6 SSDS MK 2 Mod 4B DT/OT testing in the Self Defense Test Ship with RAM Block 2, ESSM and the Linux OACE.</p> | | | |
| Title: SSDS MK2 Product Development-Advanced Capability Builds (ACB)/Technology Insertion | | 14.555 | 23.433 |
| | | 47.019 | |

UNCLASSIFIED

UNCLASSIFIED

| | |
|--|----------------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | DATE: February 2011 |
|--|----------------------------|

| | | |
|---|--|-------------------------------------|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604755N: <i>Ship Self Def (Detect & Cntrl)</i> | PROJECT 2178: <i>QRCC</i> |
|---|--|-------------------------------------|

| | | | |
|---|----------------|----------------|----------------|
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|---|----------------|----------------|----------------|

| | | | | |
|--|------------------|---|---|---|
| | Articles: | 0 | 0 | 0 |
| <i>FY 2010 Accomplishments:</i> | | | | |
| Perform SSDS MK 2 System Development including integration of government furnished hardware and software to provide Warfighting Capability Improvements via Advanced Capability Builds (ACB), and Open Architecture Computing Environment (OACE) improvements and COTS obsolescence refresh via Technology Insertion Refresh. Product development encompasses studies and analysis, modeling and simulation, system requirements engineering, critical experiments, hardware and software design, software code development, advanced production units, hardware/software integration, factory system integration testing, factory qualification testing, and system pre and post certification support during Combat System Integration Testing, Combat System Certification testing, and Development Test and Evaluation (land-based and at-sea). | | | | |
| For CVN/Amphib SSDS MK 2 Mod 1B/2B/4B OACE (S/W build 8.06), complete the Factory System Integration Test and initiate the Factory Qualification test for the SSDS MK 2 integration with the RAM Block 2 missile and the OACE upgrade to Linux operating systems. | | | | |
| For LSD SSDS MK 2 Mod 5C Tech Insertion, complete the hardware and software CDRs. SSDS MK 2 Mod 5C includes integration with Phalanx CIWS Block 1B Baseline 2, RAM Block 2, BFTT and CPS/CDS. | | | | |
| For CVN 78 SSDS MK 2 Mod 6C ACB-12/TI-12, complete the Software Specification Review (SSR) for the initial phase of software development that includes the integration of the product line System Track Manager, Dual Band Radar, CEC, and TPX-42 Air Traffic Control System. | | | | |
| <i>FY 2011 Plans:</i> | | | | |
| Perform SSDS MK 2 System Development including integration of government furnished hardware and software to provide Warfighting Capability Improvements via Advanced Capability Builds (ACB), and Open Architecture Computing Environment (OACE) improvements and COTS obsolescence refresh via Technology Insertional Refresh. Product development encompasses studies and analysis, modeling and simulation, system requirement engineering, critical experiments, hardware and software design, software code development, advanced production units, hardware/software integration, factory system integration testing, factory qualification testing, and system pre and post certification support during Combat System Integration Testing, Combat System Certification testing, and Development Test and Evaluation (land-based and at-sea). | | | | |
| For LSD SSDS MK 2 Mod 5C Tech Insertion, complete software code development, advanced production units, hardware/software integration and Factory System Integration Test. | | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|-------------------------------------|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604755N: <i>Ship Self Def (Detect & Cntrl)</i> | PROJECT 2178: <i>QRCC</i> |
|---|--|-------------------------------------|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| For CVN 78 SSDS MK 2 Mod 6C ACB-12/TI-12, complete hardware PDR and CDR, complete software CDR for phase 1 of software developments, complete SSR for phase 2 of software development for ESSM with JUWL up-link, SEWIP Block 2 ES and MH-60R, extend system and software requirements to implement ACB12/TI-12 in the CVN 68 class (SSDS MK 2 Mod 1C). | | | |
| Initiate planning/analysis for ACB-16/TI-16 candidates for Warfighting Capability Improvements and Technology Insertion Refresh. | | | |
| <i>FY 2012 Plans:</i> Perform SSDS MK 2 System Development including integration of government furnished hardware and software to provide Warfighting Capability Improvements via Advanced Capability Builds (ACB), and Open Architecture Computing Environment (OACE) improvements and COTS obsolescence refresh via Technology Insertional Refresh. Product development encompasses studies and analysis, modeling and simulation, system requirement engineering, critical experiments, hardware and software design, software code development, advanced production units, hardware/software integration, factory system integration testing, factory qualification testing, and system pre and post certification support during Combat System Integration Testing, Combat System Certification testing, and Development Test and Evaluation, land-based and at-sea. | | | |
| For LSD SSDS MK 2 Mod 5C Tech Insertion, complete Factory Qualification Testing and provide pre and post certification support during Combat System certification testing. | | | |
| For CVN 78 SSDS MK 2 Mod 6C, complete software CDR for second phase of software development for ESSM with JUWL up-link, SEWIP Block 2 ES and MH-60R, complete initial Factory System Integration for product line system track manager for SSDS MK 2 Mod 6C/1C. Initiate development of operator and maintenance training courses for SSDS MK 2 Mod 6C/1C ACB-12/TI-12. | | | |
| Accomplishments/Planned Programs Subtotals | 26.925 | 36.594 | 64.360 |

| C. Other Program Funding Summary (\$ in Millions) | | | | | | | | | | | |
|---|----------------|----------------|------------------------|-----------------------|-------------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> Base | <u>FY 2012</u> OCO | <u>FY 2012</u> Total | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To Complete</u> | <u>Total Cost</u> |
| • OPN/5239: <i>SSDS</i> | 33.974 | 54.290 | 60.700 | 0.000 | 60.700 | 57.963 | 52.567 | 53.091 | 54.154 | 0.000 | 838.269 |
| • RD TEN/0603382N: <i>Advanced Combat System Technology</i> | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| • RD TEN/0603658N: <i>Cooperative Engagement</i> | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|-------------------------------------|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604755N: <i>Ship Self Def (Detect & Cntrl)</i> | PROJECT 2178: <i>QRCC</i> |
|---|--|-------------------------------------|

C. Other Program Funding Summary (\$ in Millions)

| Line Item | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---|---------|---------|-----------------|----------------|------------------|---------|---------|---------|---------|---------------------|------------|
| • RDTEN/0604307N: <i>Surface Combatant Cmbt Sys Eng</i> | | | | | | | | | | | |
| • RDTEN/0603582N: <i>Combat System Integration</i> | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

D. Acquisition Strategy

The first SSDS MK 2 system procurements took place under a Cost Plus Award Fee contract in FY99 for the CVN 76, LPD 17, LPD 18 and CVN 69. Follow-on equipment procurements for additional ships of the CVN, LPD and LHD classes were awarded on FFP contracts. For those ships that will be receive P3I OACE COTS tech Refresh hardware suites, the initial system Tech Refresh Development occurred under a CPAF type contract, with ship COTS conversion equipment/kits procured on FFP contracts.

A new system engineering design/agent and Life Cycle Maintenance CPFF contract was awarded in FY05 and a follow-on cost type contract (with incentives) contract was awarded on 30 Sept 2008, to support SSDS MK 2 system/software maintenance and system upgrades through FY12 including the P3I COTS Tech Insertion cycles.

E. Performance Metrics

Requirement Documents

- Ship Self Defense System (SSDS) Operational Requirement Document (ORD) approved April 1995 and validated in 1997.
- SSDS MK2 KPPs were promulgated in OPNAV N76 letter SER N766/1S649367 of 18 Dec 01.
- * Subject: Ship Self Defense System (SSDS) Requirement Clarification of Key Performance Parameters (KPP) and Measures of Suitability.
- * Included the Interoperability KPP for CVN/LPD/LHD
- SSDS MK2 KPPs were clarified in OPNAV N86 letter SER N86F/7U178266 of 13 Nov 07.
- * Subject: Ship Self Defense System (SSDS) Requirement Clarification of Key Performance Parameters (KPPs) and Measures of Suitability and Effectiveness
- * Included Force Protection and Survivability KPPs

Background

- SSDS MK1 OPEVAL was successfully completed June 1997 with a Milestone III approval in March 1998
- SSDS MK2 MOD 1 FOT&E was conducted on CVN 76 in 2005. All KPP thresholds were met. However, the system was assessed as not suitable and not effective by COMOPTEVFOR based on the identification of SSDS MK2 and Combat Systems deficiencies (24major, 37 minor deficiencies).

UNCLASSIFIED

| | | |
|---|--|-------------------------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604755N: <i>Ship Self Def (Detect & Cntrl)</i> | PROJECT 2178: <i>QRCC</i> |
| <p>- SSDS MK 2 Mod 2 FOT&E was conducted in LPD 17-19 in 2007/2008. All KPPs thresholds were met and the system was assessed OPERATIONALLY EFFECTIVE and OPERATIONALLY SUITABLE by COMOPTEVFOR in the 12 Feb 2010 report. 10 major and minor deficiencies were identified against SSDS MK 2. (Also, major and minor Warfare effects deficiencies were identified against other LPD 17 class Combat System elements.)</p> <p>Status CVN SSDS MK 2 Mod 1 - 12 of 24 major deficiencies and 21 of 37 minor deficiencies have been verified as corrected by COMOPTEVFOR during FOTE test events. The status of the remaining 12 major deficiencies are as follows: 1 is ready for OPTEVFOR verification during FY10 FOT&E test events 5 involve training and will be addressed with a pending Navy Training System Plan (NTSP) update and training course improvements 4 have been identified as future efforts 2 are radar design limitations that cannot be resolved. LPD SSDS MK 2 Mod 2 - The SSDS MK 2 Mod 2 deficiencies are being analyzed for potential deficiency corrections.</p> | | |

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|-------------------------------------|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604755N: <i>Ship Self Def (Detect & Cntrl)</i> | PROJECT 2178: <i>QRCC</i> |
|---|--|-------------------------------------|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Sys Eng/Safety (Dahlgren) | WR | NSWC DD:Dahlgren, VA | 46.068 | 1.727 | Oct 2010 | 4.073 | Oct 2011 | - | | 4.073 | Continuing | Continuing | Continuing |
| Systems Engineering (JHU) | SS/FP | JHU/APL:Laurel, MD | 43.676 | 2.954 | Oct 2010 | 6.666 | Oct 2011 | - | | 6.666 | Continuing | Continuing | Continuing |
| Sys Eng/Training Dev (PHD) | WR | NSWC PHD:Pt Hueneme, CA | 19.616 | 0.300 | Oct 2010 | 2.407 | Oct 2011 | - | | 2.407 | Continuing | Continuing | Continuing |
| Sys Eng/ILS (CDSA) | WR | CDSA DN:Dam Neck, VA | 13.600 | 1.625 | Oct 2010 | 2.407 | Oct 2011 | - | | 2.407 | Continuing | Continuing | Continuing |
| Systems Engineering (IH) | WR | NSWC IH:Indian Head, MD | 3.056 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Systems Eng/Dev/Integrate (5100) | SS/CPAF | General Dynamics:Fairfax, VA | 2.000 | - | | - | | - | | - | 0.000 | 2.000 | |
| Display Development Kits | SS/FP | Lockheed Martin:St Paul, MN | 3.958 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Systems Eng/Dev/Integrate (5110) | SS/CPAF | RSC (5110):San Diego, CA | 34.185 | 15.915 | Oct 2010 | 30.351 | Oct 2011 | - | | 30.351 | Continuing | Continuing | Continuing |
| Systems Eng/Dev/Integrate (5132) | SS/CPAF | RSC (5132):San Diego, CA | 20.576 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Award Fees (5132) | SS/CPAF | RSC (5132):San Diego, CA | 3.603 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Systems Eng/Dev/Integrate (5108) | SS/CPAF | RSC (5108):San Diego, CA | 98.646 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Systems Eng/Dev/Integrate (5466) | SS/CPAF | RSC (5466):San Diego, CA | 20.353 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Systems Eng/Dev/Integrate (5104) | SS/CPFF | RSC (5104):San Diego, CA | 23.685 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Award Fees (5108) | SS/CPAF | RSC (5108):San Diego, CA | 11.208 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Award Fees (5466) | SS/CPAF | RSC (5466):San Diego, CA | 2.163 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| RisK Reduction/EMD | Various | Various:Various | 76.366 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Misc. | Various | Various:Various | 4.513 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Systems Engineering (NWSA) | WR | | 0.444 | 0.200 | Oct 2010 | 0.200 | Oct 2011 | - | | 0.200 | Continuing | Continuing | Continuing |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|-------------------------------------|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604755N: <i>Ship Self Def (Detect & Cntrl)</i> | PROJECT 2178: <i>QRCC</i> |
|---|--|-------------------------------------|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| | | NWAS Corona:Corona, CA | | | | | | | | | | | |
| Subtotal | | | 427.716 | 22.721 | | | 46.104 | | | - | | 46.104 | |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| QA/RMA | WR | NWAS Corona:Corona, CA | 9.954 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Subtotal | | | 9.954 | - | | - | | - | | - | | | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Development Test & Evaluation (PHD) | WR | NSWC PHD:Port Hueneme, CA | 69.289 | 5.005 | Oct 2010 | 6.517 | Oct 2011 | - | | 6.517 | Continuing | Continuing | Continuing |
| Development Test & Evaluation (DD) | WR | NSWC DD:Dahlgren, VA | 5.558 | 0.202 | Oct 2010 | 0.205 | Oct 2011 | - | | 0.205 | Continuing | Continuing | Continuing |
| Development Test & Evaluation (SCSC-WI) | WR | SCSC-WI:Wallops Is, VA | 36.467 | 3.305 | Oct 2010 | 5.944 | Oct 2011 | - | | 5.944 | Continuing | Continuing | Continuing |
| Development Test & Evaluation (JHU) | SS/FP | JHU/APL:Laurel, MD | 13.620 | 1.502 | Oct 2010 | 1.100 | Oct 2011 | - | | 1.100 | Continuing | Continuing | Continuing |
| Development Test & Evaluation (Corona) | WR | NSWC Corona:Corona, CA | 3.148 | 0.650 | Oct 2010 | 1.070 | Oct 2011 | - | | 1.070 | Continuing | Continuing | Continuing |
| Development Test & Evaluation (COTF) | WR | OPTEVFOR:Norfolk, VA | 2.845 | 0.405 | Oct 2010 | 0.412 | Oct 2011 | - | | 0.412 | Continuing | Continuing | Continuing |
| Development Test & Evaluation (5110) | SS/CPFF | RSC(5110):San Diego, CA | 9.652 | 1.102 | Oct 2010 | 1.000 | Oct 2011 | - | | 1.000 | Continuing | Continuing | Continuing |
| | SS/CPFF | RSC(5466):Tucson, AZ | 2.180 | - | | - | | - | | - | Continuing | Continuing | Continuing |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|-------------------------------------|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604755N: <i>Ship Self Def (Detect & Cntrl)</i> | PROJECT 2178: <i>QRCC</i> |
|---|--|-------------------------------------|

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|--|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract | |
| Development Test & Evaluation (5466) | | | | | | | | | | | | | | |
| Development Test & Evaluation (CDSA) | WR | CDSA DN:Dam Neck, VA | 1.259 | 0.202 | Oct 2010 | 0.205 | Oct 2011 | - | | 0.205 | Continuing | Continuing | Continuing | |
| Miscellaneous | Various | Various:Not Specified | 5.546 | - | | - | | - | | - | Continuing | Continuing | Continuing | |
| Subtotal | | | 149.564 | 12.373 | | 16.453 | | - | | 16.453 | | | | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|--|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract | |
| Program Management Support | C/CPAF | Not Specified:Not Specified | 18.356 | 1.500 | Oct 2010 | 1.803 | Oct 2011 | - | | 1.803 | Continuing | Continuing | Continuing | |
| Subtotal | | | 18.356 | 1.500 | | 1.803 | | - | | 1.803 | | | | |

Remarks
Program Management Support accounts for three SEAPORT contracts, Alion (01D7013), NGIT (01D7026), and SAIC (04D4119), each funded less than 1.0M respectively, and therefore, account for the aggregate total specified for each fiscal year. These contracts provide services in the areas of financial management, configuration management, testing evaluation, and engineering support.

| | Total Prior Years Cost | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|-------------------------------|----------------|--|---------------------|--|--------------------|--|----------------------|-------------------------|-------------------|---------------------------------|
| Project Cost Totals | 605.590 | 36.594 | | 64.360 | | - | | 64.360 | | | |

Remarks

UNCLASSIFIED

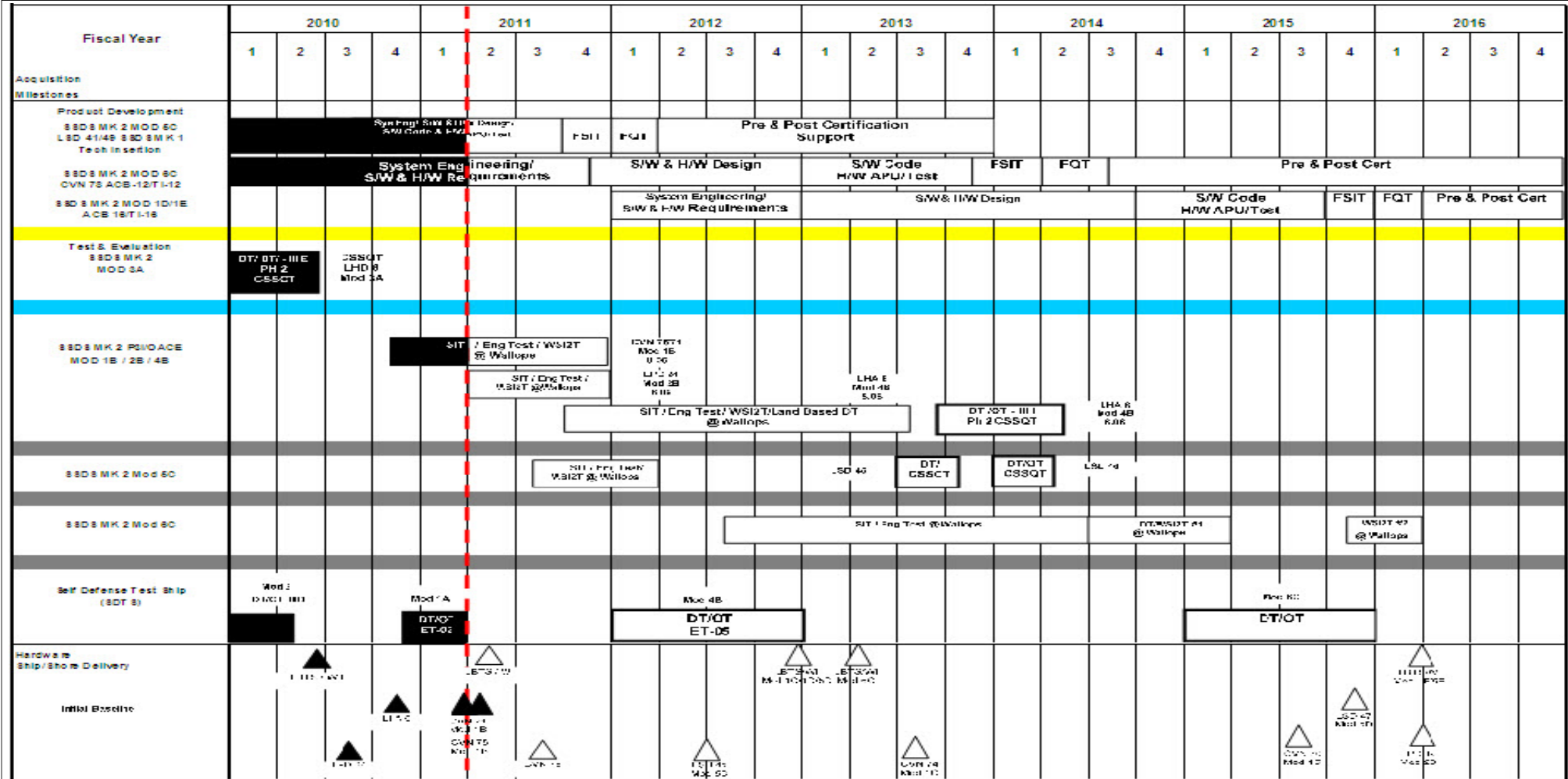
Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY
 1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE
 PE 0604755N: *Ship Self Def (Detect & Cntrl)*

PROJECT
 2178: *QRCC*



UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|-------------------------------------|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604755N: <i>Ship Self Def (Detect & Cntrl)</i> | PROJECT 2178: <i>QRCC</i> |
|---|--|-------------------------------------|

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 2178 | | | | |
| SSDS MK 2 MOD 5C (LSD) - SYS ENG/DESIGN/CODE/APU/TEST | 1 | 2010 | 3 | 2011 |
| SSDS MK 2 MOD 5C (LSD) - SYS ENG/DESIGN/CODE/APU/TEST-SSR | 1 | 2010 | 1 | 2010 |
| SSDS MK 2 MOD 5C (LSD) - SYS ENG/DESIGN/CODE/APU/TEST-HW PDR | 2 | 2010 | 2 | 2010 |
| SSDS MK 2 MOD 5C (LSD) - SYS ENG/DESIGN/CODE/APU/TEST-SW PDR | 3 | 2010 | 3 | 2010 |
| SSDS MK 2 MOD 5C (LSD) - SYS ENG/DESIGN/CODE/APU/TEST-SW CDR | 4 | 2010 | 4 | 2010 |
| SSDS MK 2 MOD 5C (LSD) - SYS ENG/DESIGN/CODE/APU/TEST-HW CDR | 4 | 2010 | 4 | 2010 |
| SSDS MK 2 MOD 5C (LSD) - FACTORY SYS INTEGRATION TEST (FSIT) | 4 | 2011 | 4 | 2011 |
| SSDS MK 2 MOD 5C (LSD) - FACTORY QUALIFICATION TEST (FQT) | 1 | 2012 | 1 | 2012 |
| SSDS MK 2 MOD 5C (LSD) - PRE&POST CERT SUPPORT | 2 | 2012 | 4 | 2013 |
| SSDS MK 2 MOD 5C (LSD) - T&E - SIT/ENG TEST/WSI2T AT WALLOPS | 3 | 2011 | 1 | 2012 |
| SSDS MK 2 MOD 5C (LSD) - T&E - LSD 45 DT/CSSQT | 3 | 2013 | 4 | 2013 |
| SSDS MK 2 MOD 5C (LSD) - T&E - LSD 46 DT/OT/CSSQT | 1 | 2014 | 2 | 2014 |
| SSDS MK2 MOD 1C/6C - CVN 68/78 ACB12/TI12 - SYS ENG/DESIGN CODE/APU/TEST | 1 | 2010 | 4 | 2013 |
| SSDS MK2 MOD 1C/6C - CVN 68/78 ACB12/TI12 - SYS ENG/DESIGN CODE/APU/TEST-SRR | 1 | 2010 | 1 | 2010 |
| SSDS MK2 MOD 1C/6C - CVN 68/78 ACB12/TI12 - SYS ENG/DESIGN CODE/APU/TEST-SFR 1 | 3 | 2010 | 3 | 2010 |
| SSDS MK2 MOD 1C/6C - CVN 68/78 ACB12/TI12 - SYS ENG/DESIGN CODE/APU/TEST-SRR 0 | 4 | 2010 | 4 | 2010 |
| SSDS MK2 MOD 1C/6C - CVN 68/78 ACB12/TI12 - SYS ENG/DESIGN CODE/APU/TEST-HW PDR | 1 | 2011 | 1 | 2011 |

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|-------------------------------------|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604755N: <i>Ship Self Def (Detect & Cntrl)</i> | PROJECT 2178: <i>QRCC</i> |
|---|--|-------------------------------------|

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| SSDS MK2 MOD 1C/6C - CVN 68/78 ACB12/TI12 - SYS ENG/DESIGN CODE/APU/TEST-SSR 1 | 1 | 2011 | 1 | 2011 |
| SSDS MK2 MOD 1C/6C - CVN 68/78 ACB12/TI12 - SYS ENG/DESIGN CODE/APU/TEST-HW CDR | 2 | 2011 | 2 | 2011 |
| SSDS MK2 MOD 1C/6C - CVN 68/78 ACB12/TI12 - SYS ENG/DESIGN CODE/APU/TEST-SW PDR 1 | 3 | 2011 | 3 | 2011 |
| SSDS MK2 MOD 1C/6C - CVN 68/78 ACB12/TI12 - SYS ENG/DESIGN CODE/APU/TEST-SFR 2 | 3 | 2011 | 3 | 2011 |
| SSDS MK2 MOD 1C/6C - CVN 68/78 ACB12/TI12 - SYS ENG/DESIGN CODE/APU/TEST-SSR 2 | 4 | 2011 | 4 | 2011 |
| SSDS MK2 MOD 1C/6C - CVN 68/78 ACB12/TI12 - SYS ENG/DESIGN CODE/APU/TEST-SW CDR 1 | 1 | 2012 | 1 | 2012 |
| SSDS MK2 MOD 1C/6C - CVN 68/78 ACB12/TI12 - FACTORY SYS INTEGRATION TEST (FSIT 0) | 2 | 2012 | 3 | 2012 |
| SSDS MK2 MOD 1C/6C - CVN 68/78 ACB12/TI12 - SYS ENG/DESIGN CODE/APU/TEST - SW PDR 2 | 3 | 2012 | 3 | 2012 |
| SSDS MK2 MOD 1C/6C - CVN 68/78 ACB12/TI12 - SYS ENG/DESIGN CODE/APU/TEST-SW CDR 2 | 4 | 2012 | 4 | 2012 |
| SSDS MK2 MOD 1C/6C - CVN 68/78 ACB12/TI12 - FACTORY SYS INTEGRATION TEST (FSIT 1) | 1 | 2013 | 2 | 2013 |
| SSDS MK2 MOD 1C/6C - CVN 68/78 ACB12/TI12 - FACTORY SYS INTEGRATION TEST (FSIT 2) | 4 | 2013 | 1 | 2014 |
| SSDS MK2 MOD 1C/6C - CVN 68/78 ACB12/TI12 - FACTORY QUALIFICATION TEST (FQT) | 2 | 2014 | 3 | 2014 |
| SSDS MK2 MOD 1C/6C - CVN 68/78 ACB12/TI12 - PRE & POST CERT SUPPORT | 3 | 2014 | 4 | 2016 |
| SSDS MK2 MOD 1C/6C - CVN 68/78 ACB12/TI12 - T&E -SIT/ENG TEST AT WALLOPS | 3 | 2012 | 2 | 2014 |

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|-------------------------------------|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604755N: <i>Ship Self Def (Detect & Cntrl)</i> | PROJECT 2178: <i>QRCC</i> |

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| SSDS MK2 MOD 1C/6C - CVN 68/78 ACB12/TI12 - T&E-DT/ENG TEST/WSI2T #1 AT WALLOPS | 3 | 2014 | 1 | 2015 |
| SSDS MK2 MOD 1C/6C - CVN 68/78 ACB12/TI12 - T&E-DT/ENG TEST/WSI2T #2 AT WALLOPS | 2 | 2015 | 1 | 2016 |
| SSDS MK 2 MOD 1D/1E-CVN/Amphib ACB16/TI16 -PLANNING /ANALYSIS | 1 | 2011 | 4 | 2011 |
| SSDS MK 2 MOD 1D/1E-CVN/Amphib ACB16TI16 - SYS ENG/DESIGN/CODE/APU/TEST | 1 | 2012 | 3 | 2015 |
| SSDS MK 2 MOD 1D/1E-CVN/Amphib ACB16TI16 - SYS ENG/DESIGN/CODE/APU/TEST-SRR | 2 | 2012 | 2 | 2012 |
| SSDS MK 2 MOD 1D/1E-CVN/Amphib ACB16TI16 - SYS ENG/DESIGN/CODE/APU/TEST-SDR/SFR | 4 | 2012 | 4 | 2012 |
| SSDS MK 2 MOD 1D/1E-CVN/Amphib ACB16TI16 - SYS ENG/DESIGN/CODE/APU/TEST-SSR | 3 | 2013 | 3 | 2013 |
| SSDS MK 2 MOD 1D/1E-CVN/Amphib ACB16TI16 - SYS ENG/DESIGN/CODE/APU/TEST-PDR | 3 | 2013 | 3 | 2013 |
| SSDS MK 2 MOD 1D/1E-CVN/Amphib ACB16TI16 - SYS ENG/DESIGN/CODE/APU/TEST-CDR | 3 | 2014 | 3 | 2014 |
| SSDS MK 2 MOD 1D/1E-CVN/Amphib ACB16TI16 - FACTORY SYS INTEGRATION TEST (FSIT) | 4 | 2015 | 4 | 2015 |
| SSDS MK 2 MOD 1D/1E-CVN/Amphib ACB16TI16 - FACTORY QUALIFICATION TEST (FQT) | 1 | 2016 | 1 | 2016 |
| SSDS MK 2 MOD 1D/1E-CVN/Amphib ACB16TI16 - PRE&POST CERT SUPPORT | 2 | 2016 | 4 | 2016 |
| SSDS MK 2 MOD 3A (LHD 8) T&E-DT/OT-III E PH2 CSSQT | 1 | 2010 | 2 | 2010 |
| SSDS MK 2 P3I OACE MOD 1B (CVN 76) T&E-DT/OT-IIIIG COMTUEX | 4 | 2010 | 1 | 2011 |
| SSDS MK 2 P3I OACE MOD 1B 8.06 (CVN 75/71) T&E-SIT/ENG TEST/WSI2T AT WI | 4 | 2010 | 4 | 2011 |
| SSDS MK 2 P3I OACE MOD 2B 8.06 (LPD 24) T&E-SIT/ENG TEST/WSI2T AT WI | 2 | 2011 | 4 | 2011 |

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|-------------------------------------|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604755N: <i>Ship Self Def (Detect & Cntrl)</i> | PROJECT 2178: <i>QRCC</i> |

| Events by Sub Project | Start | | End | |
|--|----------------|-------------|----------------|-------------|
| | Quarter | Year | Quarter | Year |
| SSDS MK 2 P3I OACE MOD 4B 8.06 (LHA 6) T&E-SIT /ENT TEST/WSI2T AT WI | 4 | 2011 | 3 | 2013 |
| SSDS MK 2 P3I OACE MOD 4B 8.06 (LHA 6) T&E-DT/OT-III I PH 2 CSSQT | 3 | 2013 | 2 | 2014 |
| SDTS -SSDS MK 2 MOD 2 T&E -DT/OT IIID | 1 | 2010 | 2 | 2010 |
| SDTS-SSDS MK 2 MOD 1A T&E-DT/OT ET 03 | 4 | 2010 | 1 | 2011 |
| SDTS-SSDS MK 2 MOD 4B T&D-DT/OT ET 05 | 1 | 2012 | 4 | 2012 |
| SDTS-SSDS MK 2 MOD 6C T&E-DT/OT | 1 | 2015 | 4 | 2015 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604755N: <i>Ship Self Def (Detect & Cntrl)</i> | PROJECT 3172: <i>Joint Non-Lethal Weapons</i> |
|---|--|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---------------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 3172: <i>Joint Non-Lethal Weapons</i> | 4.089 | 4.597 | 1.334 | - | 1.334 | 0.900 | 0.898 | 0.713 | 0.704 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

Note
Funding for Integrated Swimmer Defense (ISD) moved to project 3306 starting in FY12.

A. Mission Description and Budget Item Justification

The scope of this project is to provide the fleet Expeditionary (specifically the Maritime Expeditionary Security Force) units with the capability of a portable maritime system to engage contacts of interest once they have been detected. Long Range Ocular Interruption (LROI) consists of efforts to develop and demonstrate a long range laser warning and dazzle system for use in maritime environment. The device is designed to issue clear and unambiguous optically dazzling warnings at long ranges (in excess of 1000m) to personnel, vehicles, vessels, (and potentially aircraft) approaching Navy, Coast Guard, or Army ships, ground assets, and critical maritime infrastructure.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| Title: Non-Lethal Weapons Development | 1.282 | 1.066 | 0.409 |
| Articles: | 0 | 0 | 0 |
| FY 2010 Accomplishments: Supports incorporation of evaluation feedback into the supporting DODAF architecture of the ISD CPD. Supports preparation for the ISD Milestone C decision. These funds also initiate the transition development work from several Future Naval Capabilities (FNC) projects geared toward increment II of ISD. | | | |
| FY 2011 Plans: Support completion of Increment I CPD, Increment I MS C and FRP development. | | | |
| FY 2012 Plans: Supports system design/refinement for the Long Range Ocular Interrupter (LROI). | | | |
| Title: Non-Lethal Weapons Testing | 2.807 | 3.531 | 0.925 |
| Articles: | 0 | 0 | 0 |
| FY 2010 Accomplishments: Resources facilitate the program management and acquisition support effort needed for the ISD capability to achieve Milestone C and its production decision. Start initial testing/certification of the full ISD system. | | | |
| FY 2011 Plans: | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604755N: <i>Ship Self Def (Detect & Cntrl)</i> | PROJECT 3172: <i>Joint Non-Lethal Weapons</i> |
|---|--|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|--|---------|---------|---------|
| Complete update of UOES2 system to the first Increment I, build test article and accomplish Development Testing (DT), facilities testing, and Operational Testing (OT) efforts. The UONS support unambiguous warning devices for Mobile Expeditionary Security Forces (MESF). <i>FY 2012 Plans:</i> Supports comparative performance testing of commercial systems for base lining development of the Long Range Ocular Interrupter (LROI) program. | | | |
| Accomplishments/Planned Programs Subtotals | 4.089 | 4.597 | 1.334 |

C. Other Program Funding Summary (\$ in Millions)

| Line Item | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--------------------------------------|---------|---------|-----------------|----------------|------------------|---------|---------|---------|---------|---------------------|------------|
| • OPN/8128: <i>NCW Forces Active</i> | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 2.762 | 10.950 | 10.133 | Continuing | Continuing |

D. Acquisition Strategy

The acquisition strategy includes the assessment of mature technologies, strategies and potential system capabilities matched against identified capability gaps that can be used in a flexible response posture. Selected capabilities will be based on AoA and best material approach to meet expeditionary and afloat force protection requirements. Technology development will occur in FY12-13 culminating in an EMD phase commencing in FY14. Successful capabilities will require cross-integration onto existing Navy platforms and ensure compatibility/interoperability within the expeditionary context. Multiple solutions could be output based on overall satisfaction of technical and operational requirements, acquisition life cycle costs, and forecasted procurement quantity needs.

E. Performance Metrics

Complete material solution analysis and technical development strategy. Conduct CDD development.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604755N: <i>Ship Self Def (Detect & Cntrl)</i> | PROJECT 3172: <i>Joint Non-Lethal Weapons</i> |
|---|--|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| System Engineering | WR | NSWC Dahlgren:Dahlgren VA | 4.456 | 0.500 | Feb 2011 | 0.500 | Feb 2012 | - | | 0.500 | Continuing | Continuing | Continuing |
| System Engineering | WR | NSWC Port Hueneme:Port Hueneme CA | 0.100 | 0.300 | Feb 2011 | 0.254 | Feb 2012 | - | | 0.254 | Continuing | Continuing | Continuing |
| System Engineering | WR | NSWC Crane:Crane IN | 0.150 | 0.250 | Feb 2011 | 0.180 | Feb 2012 | - | | 0.180 | Continuing | Continuing | Continuing |
| Subtotal | | | 4.706 | 1.050 | | 0.934 | | - | | 0.934 | | | |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Program Management | WR | NUWC Newport:Newport, RI | 2.215 | 0.642 | Feb 2011 | - | | - | | - | Continuing | Continuing | Continuing |
| Engineering Services (NSWC) | WR | NSWC Panama City:Panama City, FL | 1.200 | - | | - | | - | | - | 0.000 | 1.200 | |
| Subtotal | | | 3.415 | 0.642 | | - | | - | | - | | | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Test and Evaluation | WR | COMOPTEVFOR:Norfolk VA | 1.875 | 1.450 | Feb 2011 | 0.100 | Feb 2012 | - | | 0.100 | Continuing | Continuing | Continuing |
| Subtotal | | | 1.875 | 1.450 | | 0.100 | | - | | 0.100 | | | |

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604755N: <i>Ship Self Def (Detect & Cntrl)</i> | PROJECT 3172: <i>Joint Non-Lethal Weapons</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 3172 | | | | |
| Acquisition Milestones: CDD | 2 | 2013 | 2 | 2013 |
| Acquisition Milestones: Milestone B | 3 | 2013 | 3 | 2013 |
| Acquisition Milestones: CPD | 2 | 2016 | 2 | 2016 |
| System Development: Technology Development | 4 | 2011 | 4 | 2013 |
| System Development: Expeditionary EDM Development | 1 | 2014 | 4 | 2016 |
| System Development: Ship EDM Development | 3 | 2015 | 4 | 2016 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604755N: <i>Ship Self Def (Detect & Cntrl)</i> | PROJECT 3306: <i>Integrated Swimmer Defense (ISD)</i> |
|---|--|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 3306: <i>Integrated Swimmer Defense (ISD)</i> | - | - | 1.657 | - | 1.657 | 1.182 | 1.215 | 1.240 | 1.265 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

Note

Funding moved from project 3172 starting in FY12.

A. Mission Description and Budget Item Justification

The scope of this project is to provide the fleet Expeditionary (specifically the Maritime Expeditionary Security Force) units with the capability of a portable maritime Integrated Swimmer Defense (ISD) system to engage combat swimmers/divers or unknown individuals underwater once they have been detected. The ISD program combines the detection and engagement operations in order to complete the swimmer defense picture for the fleet. The objective of the integrated swimmer defense system (ISD) is the development and deployment of an integrated system capable of being deployed by the expeditionary harbor security units (primarily the Maritime Expeditionary Security Force). ISD will be designed to detect, track, classify, warn, deter and neutralize divers' and swimmers' threats. ISD is important to protecting high value assets within harbors from the increasing threat of waterborne terrorist or combatant attacks.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| Title: Integrated Swimmer Defense | - | - | 1.657 |
| Articles: | | | 0 |
| FY 2012 Plans: Development of project documentation (CONOPS; AoA and CDD). Supports preparation for Milestone B decision. | | | |
| Accomplishments/Planned Programs Subtotals | - | - | 1.657 |

C. Other Program Funding Summary (\$ in Millions)

| Line Item | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--------------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| • OPN/8128: <i>NCW Forces Active</i> | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 2.824 | 2.824 | 4.236 | 5.648 | Continuing | Continuing |

D. Acquisition Strategy

The acquisition strategy includes the integration of swimmer/diver detection sensors and using software to fuse the sensor track data thereby creating an end to end combat system capability for swimmer/diver defense. A Navy technical team will complete the concept refinement and technology development phase through the release of User Operational Evaluation Systems (UOES) and they will partner with industry for each UOES. In order to further refine the ISD requirements for a validated ISD Capability Production Document, two ISD User Operational Evaluation Systems (UOES) will be developed and evaluated. A mature near production

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | R-1 ITEM NOMENCLATURE | PROJECT |
|---|--|---|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | PE 0604755N: <i>Ship Self Def (Detect & Cntrl)</i> | 3306: <i>Integrated Swimmer Defense (ISD)</i> |

ready UOES 2 was delivered in September 2009. The ISD program of record system configuration will be produced through an Acquisition Category (ACAT) program commencing in FY10 to procure component systems needed to bring the performance of the UOES prototypes up to the full production requirements.

E. Performance Metrics

User Operational Evaluation Systems (UOES) will culminate defined set of system capabilities and limitations. Define level specifications and technical data packages.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604755N: <i>Ship Self Def (Detect & Cntrl)</i> | PROJECT 3306: <i>Integrated Swimmer Defense (ISD)</i> |
|---|--|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Hardware/Software Development | WR | NUWC Newport:Newport RI | - | - | | 0.200 | Feb 2012 | - | | 0.200 | Continuing | Continuing | Continuing |
| Hardware/Software Development - FNC | WR | NUWC Newport:Newport RI | - | - | | 0.100 | Feb 2012 | - | | 0.100 | Continuing | Continuing | Continuing |
| Hardware/Software Development - FNC Detection and Targeting | WR | NUWC Newport:Newport RI | - | - | | 0.125 | Feb 2012 | - | | 0.125 | Continuing | Continuing | Continuing |
| Subtotal | | | - | - | | 0.425 | | - | | 0.425 | | | |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Engineering Services (NUWC) | WR | NUWC Newport:Newport RI | - | - | | 0.679 | Feb 2012 | - | | 0.679 | Continuing | Continuing | Continuing |
| Subtotal | | | - | - | | 0.679 | | - | | 0.679 | | | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Test and Evaluation (NUWC) | WR | NUWC Newport:Newport RI | - | - | | 0.290 | Feb 2012 | - | | 0.290 | Continuing | Continuing | Continuing |
| Subtotal | | | - | - | | 0.290 | | - | | 0.290 | | | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Program Management (NUWC) | WR | NUWC Newport:Newport RI | - | - | | 0.263 | Feb 2012 | - | | 0.263 | Continuing | Continuing | Continuing |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604755N: <i>Ship Self Def (Detect & Cntrl)</i> | PROJECT 3306: <i>Integrated Swimmer Defense (ISD)</i> |
|---|--|---|

| Proj 3306 | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | | | | | |
|-------------------------------|-------------|----|----|----|---------|----|----|----------|---------|----|----|------------------------|------------|------------|----------|----|---------|----|----|----|---------|----|----|----------|------------------------|----|----|----|--|--|--|--|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | | | | |
| Acquisition Milestones | | | | | | | | ▲ CPD | | | | ▲ MS C/FRP DR | | ▲ IOT&E | ▲ IOC | | | | | | | | | ▲ FOC | | | | | | | | |
| Test and Evaluation | EDM Testing | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Program Phases | | | | | | | | | | | | | Production | | | | | | | | | | | | Operations and Support | | | | | | | |

2012PB - 0604755N - 3306

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604755N: <i>Ship Self Def (Detect & Cntrl)</i> | PROJECT 3306: <i>Integrated Swimmer Defense (ISD)</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 3306 | | | | |
| Acquisition Milestones: Increment I CPD | 4 | 2011 | 4 | 2011 |
| Acquisition Milestones: Increment I IOC | 3 | 2013 | 3 | 2013 |
| Acquisition Milestones: Increment I MS C/FRPDR | 4 | 2012 | 4 | 2012 |
| Acquisition Milestones: Increment I FOC | 4 | 2015 | 4 | 2015 |
| Acquisition Milestones: Increment I IOT&E | 2 | 2013 | 2 | 2013 |
| Test and Evaluation: Increment I EDM Testing | 1 | 2010 | 3 | 2011 |
| Program Phases: Increment 1 Production | 3 | 2013 | 4 | 2015 |
| Program Phases: Increment 1 Operations and Support | 3 | 2013 | 4 | 2016 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604755N: <i>Ship Self Def (Detect & Cntrl)</i> | PROJECT 9999: <i>Congressional Adds</i> |
|---|--|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 9999: <i>Congressional Adds</i> | 9.063 | - | - | - | - | - | - | - | - | 0.000 | 9.063 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

9C22A: Autonomous Unmanned Surface Vessel (AUSV) supports the U.S. Navy's Anti-Terrorism Force Protection (ATFP) as well as Homeland Defense missions. The AUSV can protect commercial harbors, coastal facilities such as commercial and military airports and nuclear power plants, inland waterways and large lakes. The vessel will utilize a variety of advanced sensing and perimeter monitoring equipment for surveillance and detection of Targets of Interest (TI).

9C23A/0166: Expeditionary Swimmer Defense Systems consists of an instrumented physical barrier that deters swimmers and divers from attempting to prohibited areas, and detects and localizes attempted intrusions.

9D90A/0166: Persistent Surveillance Wave Power-Buoy System is to create a buoy platform that generates sustainable power sufficient to energize a variety of sensors and communications elements to enhance the littoral security mission (Littoral Power Buoy - LPB).

B. Accomplishments/Planned Programs (\$ in Millions)

| | FY 2010 | FY 2011 |
|--|---------|---------|
| Congressional Add: Autonomous Unmanned Surface Vessel (AUSV)(xfer fro | 2.689 | - |
| FY 2010 Accomplishments: N/A | | |
| Congressional Add: Expeditionary Swimmer Defense System | 3.187 | - |
| FY 2010 Accomplishments: N/A | | |
| Congressional Add: Persistent Surveillance Wave Power-Buoy System | 3.187 | - |
| FY 2010 Accomplishments: N/A | | |
| Congressional Adds Subtotals | 9.063 | - |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

N/A

UNCLASSIFIED

| | | |
|---|--|---|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604755N: <i>Ship Self Def (Detect & Cntrl)</i> | PROJECT 9999: <i>Congressional Adds</i> |

E. Performance Metrics

Congressional Adds

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | | | | R-1 ITEM NOMENCLATURE | | | | | | | |
|---|----------------|----------------|---------------------|---|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | PE 0604756N: <i>Ship Self Def (Engage: Hard Kill)</i> | | | | | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| Total Program Element | 50.778 | 5.860 | 6.631 | - | 6.631 | 4.059 | 4.147 | 4.236 | 4.302 | Continuing | Continuing |
| 0167: <i>5in Rolling Airframe Missile</i> | 31.952 | 1.547 | 1.280 | - | 1.280 | 1.295 | 1.326 | 1.356 | 1.374 | Continuing | Continuing |
| 0173: <i>NATO Sea Sparrow</i> | 6.876 | 4.313 | 5.351 | - | 5.351 | 2.764 | 2.821 | 2.880 | 2.928 | Continuing | Continuing |
| 9999: <i>Congressional Adds</i> | 11.950 | - | - | - | - | - | - | - | - | 0.000 | 11.950 |

A. Mission Description and Budget Item Justification

This program element provides funding for the development of systems that fulfill a portion of the third phase of the Ship Self Defense: Engage Hard Kill. Development in this line will focus on hard kill capabilities in which missiles are used to intercept incoming Anti-Ship Cruise Missiles (ASCM). ENGAGEMENT: Missile and system improvements necessary to meet their requirements are being addressed via NATO SEASPARROW Missile System (NSSMS) (0173), 5" Rolling Airframe Missile (RAM) (0167), and Phalanx CIWS SeaRAM (9853A). Missile improvements include improved kinematic performance plus advanced seeker and low elevation fusing/warhead capability improvements. System improvements include incorporation of Phalanx detection capability into RAM system (SeaRAM), future concepts studies and self-destructing ammunition, and Future Phalanx Next Generation Improvements. FY 2010 Congressional Add provides funding for Next Generation Phalanx with Laser Demo.

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 46.044 | 5.860 | 6.209 | - | 6.209 |
| Current President's Budget | 50.778 | 5.860 | 6.631 | - | 6.631 |
| Total Adjustments | 4.734 | - | 0.422 | - | 0.422 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | 6.000 | - | | | |
| • SBIR/STTR Transfer | -1.188 | - | | | |
| • Program Adjustments | - | - | 0.614 | - | 0.614 |
| • Section 219 Reprogramming | -0.077 | - | - | - | - |
| • Rate/Misc Adjustments | - | - | -0.192 | - | -0.192 |
| • Congressional General Reductions Adjustments | -0.001 | - | - | - | - |

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604756N: <i>Ship Self Def (Engage: Hard Kill)</i> |
|---|---|

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 9999: *Congressional Adds*

Congressional Add: *PHALANX CIWS Future Concepts/Next Gen*

Congressional Add Subtotals for Project: 9999

Congressional Add Totals for all Projects

| | FY 2010 | FY 2011 |
|--|---------|---------|
| | 11.950 | - |
| | 11.950 | - |
| | 11.950 | - |

Change Summary Explanation

FY 2010 Section 219 reduction realigns funds to comply with FY 2009 Defense Authorization Act
 FY 2010 RAM Block 2 BTR increase realigns funds to complete RAM Block 2 development
 FY 2012 Program Adjustments increase provides funds for ESSM Test and Evaluation efforts

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | | | R-1 ITEM NOMENCLATURE | | | | PROJECT | | | | |
|---|---------|---------|---|-------------|---------------|---------|---|---------|---------|------------------|------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | PE 0604756N: <i>Ship Self Def (Engage: Hard Kill)</i> | | | | 0167: <i>5in Rolling Airframe Missile</i> | | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| 0167: <i>5in Rolling Airframe Missile</i> | 31.952 | 1.547 | 1.280 | - | 1.280 | 1.295 | 1.326 | 1.356 | 1.374 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

The purpose of this program is to develop a surface-to-air self-defense system utilizing a dual mode, passive Radio Frequency/Infrared 5" Rolling Airframe Missile (RAM). The baseline system (Block 0) provides a self-defense capability against active radar-guided anti-ship missiles and was developed on an equal cost share basis with the Government of the Federal Republic of Germany. The RAM Block 1 provides a capability against passive anti-ship missiles, very low altitude missiles, and maneuvering missiles through the incorporation of an infrared all-the-way mode seeker and improved fuze. The RAM Block 1 MOD 3 upgrade program, which provides an additional capability against helicopters, aircraft and surface craft, is a Cooperative requirement of the U.S. and Federal Republic of Germany agreed to in a Memorandum of Agreement (MOA) signed by both parties. FY 2010-2016 funding continues development and testing of a Block 2 upgrade to the RAM. This upgrade will allow RAM to regain battle space lost to emerging, more maneuverable ASCM threats. This system is designed to counter anti-ship cruise missile raids and other threats to provide for ship survivability with accurate terminal guidance, proven lethality, and no shipboard post launch dependence.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|---|-------------|------------|------------|
| <p>Title: 5in Rolling Airframe Missile Block 2 Development and Test</p> <p style="text-align: right;">Articles:</p> <p>FY 2010 Accomplishments: FY 2010 funds continued development and support of RAM Block 2 upgrade.</p> <p>FY 2011 Plans: FY 2011 funds continued development and support of RAM Block 2 upgrade.</p> <p>FY 2012 Plans: FY 2012 funds test efforts</p> | 31.835 0 | 1.432 0 | 1.205 0 |
| <p>Title: 5in Rolling Airframe Missile Block 2 Travel</p> <p style="text-align: right;">Articles:</p> <p>FY 2010 Accomplishments: FY 2010 funds travel.</p> <p>FY 2011 Plans: FY 2011 funds travel.</p> <p>FY 2012 Plans:</p> | 0.117 0 | 0.115 0 | 0.075 0 |

UNCLASSIFIED

| | |
|--|----------------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | DATE: February 2011 |
|--|----------------------------|

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604756N: <i>Ship Self Def (Engage: Hard Kill)</i> | PROJECT 0167: <i>5in Rolling Airframe Missile</i> |
|---|---|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| FY 2012 funds travel | | | |
| Accomplishments/Planned Programs Subtotals | 31.952 | 1.547 | 1.280 |

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> <u>Base</u> | <u>FY 2012</u> <u>OCO</u> | <u>FY 2012</u> <u>Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
|------------------|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| • OPN 5238: RAM | 7.535 | 11.805 | 4.321 | 0.000 | 4.321 | 1.199 | 0.526 | 0.540 | 1.232 | 0.000 | 673.758 |
| • WPN 2242: RAM | 69.728 | 74.976 | 66.197 | 0.000 | 66.197 | 67.288 | 68.688 | 82.923 | 84.319 | 2,526.900 | 3,659.144 |

D. Acquisition Strategy

The RAM Program uses directed sole source contracts with Raytheon Missile Systems Company, Tucson, AZ.

E. Performance Metrics

Successfully achieve Milestone C. Successfully achieve Development/Operational Milestones.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604756N: <i>Ship Self Def (Engage: Hard Kill)</i> | PROJECT 0167: <i>5in Rolling Airframe Missile</i> |
|---|---|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|---------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Primary Hardware Development | SS/CPFF | Raytheon:Tucson/Louisville | 7.434 | - | | - | | - | | - | 0.000 | 7.434 | |
| Primary Hardware Dev Support | WR | China Lake:CA | 1.266 | - | | - | | - | | - | 0.000 | 1.266 | |
| Block 1 Eng/Interface Support | SS/CPFF | Raytheon:Tucson/Louisville | 0.400 | - | | - | | - | | - | 0.000 | 0.400 | |
| Block 1 MOD 3 Interface Support | C/CPFF | JHU/APL:MD | 0.981 | - | | - | | - | | - | 0.000 | 0.981 | |
| Block 2 Upgrade | SS/CPAF | Raytheon:Tucson/Louisville | 133.271 | 1.258 | Jan 2011 | - | | - | | - | 0.000 | 134.529 | |
| Block 2 Upgrade | WR | China Lake/ NRL/ Dahlgren:CA/VA | 15.157 | 0.087 | Mar 2011 | - | | - | | - | 0.000 | 15.244 | |
| Block 2 Upgrade | C/CPFF | JHU/APL:md | 1.300 | - | | - | | - | | - | 0.000 | 1.300 | |
| Block 2 Product Support | WR | China Lake/NRL/ Dahlgren:CA/VA | 3.498 | 0.087 | Mar 2011 | 0.059 | Oct 2011 | - | | 0.059 | Continuing | Continuing | Continuing |
| Subtotal | | | 163.307 | 1.432 | | 0.059 | | - | | 0.059 | | | |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Studies and Analyses | Various | various:various | 1.210 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Subtotal | | | 1.210 | - | | - | | - | | - | | | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| DT&E/OT&E/FOT&E/ | SS/CPAF | Raytheon:Tucson/Louisville | 13.787 | - | | 0.562 | Oct 2011 | - | | 0.562 | 0.000 | 14.349 | |
| FOT&E | WR | | 4.674 | - | | - | | - | | - | 0.000 | 4.674 | |

UNCLASSIFIED

UNCLASSIFIED

| Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy | | | | | | | | | | | DATE: February 2011 | | |
|---|------------------------|--------------------------------|------------------------|--|------------|--------------|------------|------------------------------------|------------|---------------|---------------------|------------|--------------------------|
| APPROPRIATION/BUDGET ACTIVITY | | | | R-1 ITEM NOMENCLATURE | | | | PROJECT | | | | | |
| 1319: Research, Development, Test & Evaluation, Navy BA 5: Development & Demonstration (SDD) | | | | PE 0604756N: Ship Self Def (Engage: Hard Kill) | | | | 0167: 5in Rolling Airframe Missile | | | | | |
| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| | | China Lake/PHD:CA/CA | | | | | | | | | | | |
| Test Support | WR | China Lake/PHD:CA/CA | 11.061 | - | | 0.584 | Oct 2011 | - | | 0.584 | Continuing | Continuing | Continuing |
| Miscellaneous | Various | various:various | 5.733 | - | | - | | - | | - | 0.000 | 5.733 | |
| | | Subtotal | 35.255 | - | | 1.146 | | - | | 1.146 | | | |
| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Travel | Allot | Program Office:VA | 0.883 | 0.115 | Nov 2010 | 0.075 | Oct 2011 | - | | 0.075 | Continuing | Continuing | Continuing |
| Defense Acquisition Workforce Development Fund | Various | various:various | 0.147 | - | | - | | - | | - | 0.000 | 0.147 | |
| | | Subtotal | 1.030 | 0.115 | | 0.075 | | - | | 0.075 | | | |
| | | | Total Prior Years Cost | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
| Project Cost Totals | | | 200.802 | 1.547 | | 1.280 | | - | | 1.280 | | | |
| Remarks | | | | | | | | | | | | | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

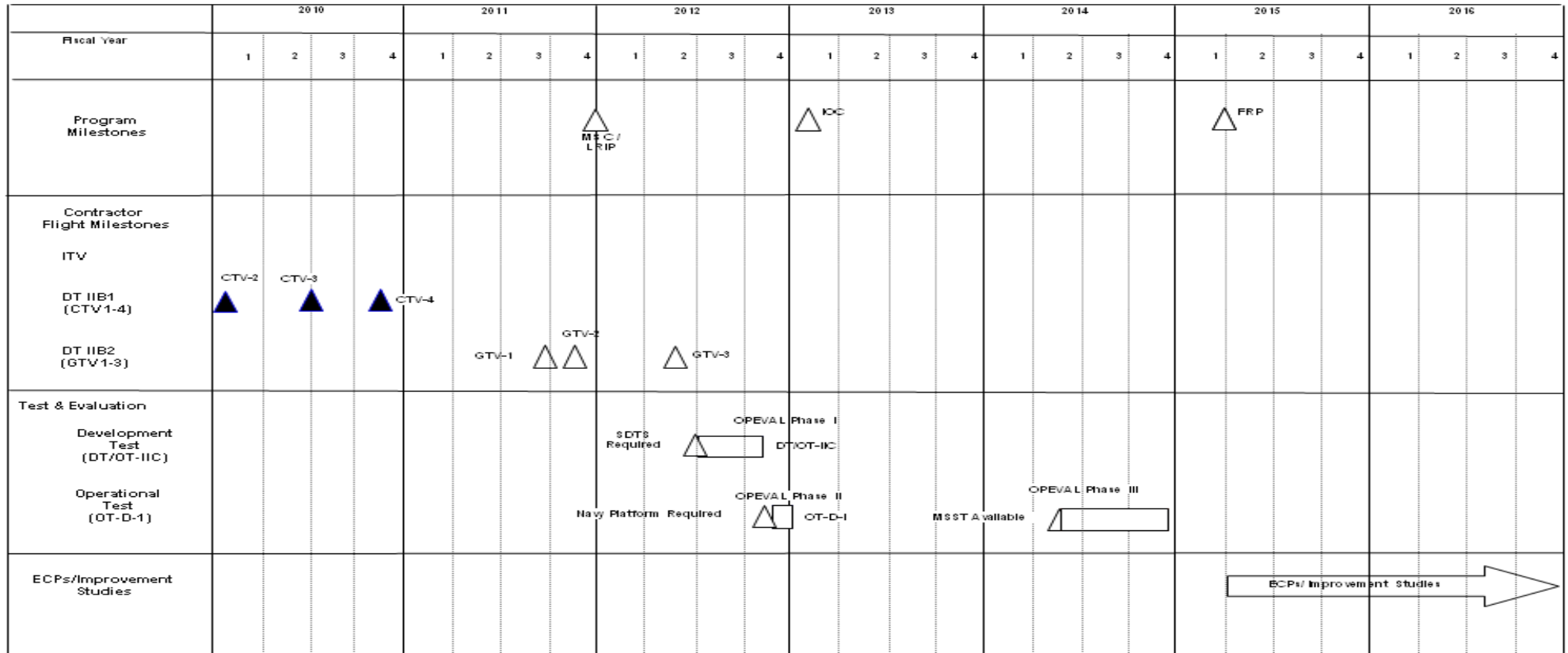
1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604756N: *Ship Self Def (Engage: Hard Kill)*

PROJECT

0167: *5in Rolling Airframe Missile*



UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604756N: <i>Ship Self Def (Engage: Hard Kill)</i> | PROJECT 0167: <i>5in Rolling Airframe Missile</i> |
|---|---|---|

Schedule Details

| Events by Sub Project | Start | | End | |
|--------------------------|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 0167 | | | | |
| MS C/LRIP | 4 | 2011 | 4 | 2011 |
| IOC | 1 | 2013 | 1 | 2013 |
| FRP | 1 | 2015 | 1 | 2015 |
| CTV -2 Firing | 1 | 2010 | 1 | 2010 |
| CTV-3 Firing | 2 | 2010 | 2 | 2010 |
| CTV-4 Firing | 4 | 2010 | 4 | 2010 |
| GTV-1 Firing | 3 | 2011 | 3 | 2011 |
| GTV-2 Firing | 4 | 2011 | 4 | 2011 |
| GTV-3 Firing | 2 | 2012 | 2 | 2012 |
| DT/OT-IIC | 2 | 2012 | 4 | 2012 |
| OT-D-1 Firing | 4 | 2012 | 4 | 2012 |
| MSST Testing | 2 | 2014 | 4 | 2014 |
| ECPs/Improvement Studies | 2 | 2015 | 4 | 2016 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604756N: <i>Ship Self Def (Engage: Hard Kill)</i> | PROJECT 0173: <i>NATO Sea Sparrow</i> |
|---|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|-------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 0173: <i>NATO Sea Sparrow</i> | 6.876 | 4.313 | 5.351 | - | 5.351 | 2.764 | 2.821 | 2.880 | 2.928 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

This project encompasses three (3) primary efforts to enhance ship self defense:

1. **EVOLVED SEASPARROW MISSILE (ESSM):** A cooperative effort among 10 NATO SEASPARROW Nations and the U.S., to improve the capability of the SEASPARROW Missile to counter the low altitude, highly maneuverable Anti-Ship Cruise Missile threat. The program consists of evolving the SEASPARROW Missile through the development of a new rocket motor with tail control; thrust vector control and ordnance (warhead) upgrade; modifications to the MK 41 VLS to fire from a single cell with 4 ESSM (QuadPack); and modifications to the NATO SEASPARROW Missile System (NSSMS) to provide ESSM capability.

2. **NATO SEASPARROW - MK 91 Rearchitecture/SDSMS:** The MK 91 Rearchitecture Program integrates NSSMS into the Ship Self Defense System (SSDS) Architecture to provide ship missile defense utilizing an open architected system. This effort consists of combining the Firing Officer Console and Radar Set Console functionality into a single Advanced Display System Console (AN/UYQ-70); modifying the Signal Data Processor and eliminating the MK 157 Computer Signal Data Converter and System Evaluation and Trainer, and redistributing this functionality within SSDS compatible microprocessors. This approach will eliminate the analog, point-to-point architecture, limited input-output channel and computer processing reserve deficiencies resident in the existing MK 57 NSSMS, and is required for ESSM. This modification also allows for full exploitation of the capabilities of the future ESSM and provides significant reductions (over 50%) in NSSMS cost of ownership and manning requirements.

3. **Amphibious Self-Defense AAW Probability of Raid Annihilation (PRA) Improvement-** The Amphibious Self-Defense AAW PRA Improvement program provides the L-Class Amphibious ships (LHA, LHD, LSD) with an improved PRA through full integration of the weapons and sensors of the combat system. This improvement introduces the Multi-Sensor Integration (MSI) unit that receives fire control and sensor data from ship radars, fuses them into an integrated radar picture and provides composite track reports to the combat system. MK 15 CIWS is upgraded to a Baseline 2 Radar Upgrade configuration with a much improved search and track radar. No longer stand-alone, CIWS will be integrated into the sensor suite and provide fire control quality search and track data to the combat system via the MSI unit. As a fallback measure, CIWS Baseline 2 Radar Upgrade can also report directly to the MK 23 Target Acquisition Radar Threat Evaluation Weapons Assignment (TEWA) providing fire control quality track data at a very fast update rate for targets to the horizon. Target Acquisition System (TAS) itself will receive an upgrade of its Open System Module unit to accommodate direct inputs from both the MSI and CIWS units. This improvement program provides full integration of the combat system and will meet or exceed threat detection and designation requirements through 2020. Use of the MSI will provide stable track data through a composite track picture reported to the combat system. Without this improvement, PRA of the L-Class ships would continue to degrade to an unsatisfactory point in the mid term.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|--|---------|---------|---------|
| Title: NATO Sea Sparrow integration testing | 6.306 | 4.000 | 5.031 |
| Articles: | 0 | 0 | 0 |

UNCLASSIFIED

| | | | | |
|---|---|---|----------------|----------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604756N: <i>Ship Self Def (Engage: Hard Kill)</i> | PROJECT 0173: <i>NATO Sea Sparrow</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| <p><i>FY 2010 Accomplishments:</i> Continue ESSM SSDS integration testing on CVN platforms. Conduct US-unique DT/OT firings from SDTS and carriers (DT/OT-D2, DT/OT-D3). Conduct ESSM Aegis integration testing and DT/OT firings on Cruisers and Destroyers and SDTS (DT/OT-D4, DT/OT-D5, DT/OT-D6) in support of Aegis Modernization Program. Conduct ESSM DT/OT firings on SDTS (DT/OT-D7) in support of SSDS Open Architecture integration and uplink development. This provides for the U.S. share of cooperative efforts associated with ESSM engineering studies and other development initiatives.</p> <p><i>FY 2011 Plans:</i> Continue ESSM SSDS integration testing on CVN platforms. Conduct US-unique DT/OT firings from SDTS and carriers (DT/OT-D2, DT/OT-D3). Conduct ESSM Aegis integration testing and DT/OT firings on Cruisers and Destroyers and SDTS (DT/OT-D4, DT/OT-D5, DT/OT-D6) in support of Aegis Modernization Program. Conduct ESSM DT/OT firings on SDTS (DT/OT-D7) in support of SSDS Open Architecture integration and uplink development. This provides for the U.S. share of cooperative efforts associated with ESSM engineering studies and other development initiatives.</p> <p><i>FY 2012 Plans:</i> Continue ESSM SSDS integration testing on CVN platforms. Conduct US-unique DT/OT firings from SDTS and carriers (DT/OT-D2, DT/OT-D3). Conduct ESSM Aegis integration testing and DT/OT firings on Cruisers and Destroyers and SDTS (DT/OT-D4, DT/OT-D5, DT/OT-D6) in support of Aegis Modernization Program. Conduct ESSM DT/OT firings on SDTS (DT/OT-D7) in support of SSDS Open Architecture integration and uplink development. This provides for the U.S. share of cooperative efforts associated with ESSM engineering studies and other development initiatives.</p> | | | | |
| <p><i>Title:</i> NATO Sea Sparrow Amphibious Self-Defense AAW improvements</p> <p align="right"><i>Articles:</i></p> <p><i>FY 2010 Accomplishments:</i> Conduct Amphibious Self-Defense AAW improvement for LHD 1-6 and LHA class ships leveraging the MK 15 CIWS Baseline 2 Radar upgrade program, the MSIT unit developed for the Self-Defense Test Ship and the RAM MOD 3 Launcher upgrade program, L-class PRA will be greatly enhanced. Improvements to the MK 23 TAS made to support and integrate the RAM Mod 3 Launcher will be leveraged to integrate the MSI unit and the CIWS Baseline 2 GFCS. The MSI will have the greatest positive impact on PRA as composite track data will be developed and provided to the combat system. The short range air radar picture will be significantly improved through the use of the CIWS upgraded search and track radar providing track data at a very fast update rate.</p> | | 0.263 0 | - | - |
| <p><i>Title:</i> NATO Sea Sparrow Combat System Integraton Technical Direction Agent (TDA)</p> <p align="right"><i>Articles:</i></p> <p><i>FY 2010 Accomplishments:</i></p> | | 0.307 0 | 0.313 0 | 0.320 0 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604756N: <i>Ship Self Def (Engage: Hard Kill)</i> | PROJECT 0173: <i>NATO Sea Sparrow</i> |
|---|---|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| <p>Provided funding for the Combat System Integration TDA who provided engineering support for combat system performance and risk mitigation. The TDA leveraged it's technical expertise & leadership to cover a broad range of activities such as defining near-term and future requirements for current systems and future upgrades, maintained system performance models to evaluate system improvements, threat changes and operational environment conditions, verifying models and simulations to promote the program success and continued to maintain NATO SEASPARROW Program Office (NSPO) essential research and engineering capabilities and corporate memory.</p> <p>FY 2011 Plans: Provides funding for the Combat System Integration TDA who will provide engineering support for combat system performance and risk mitigation. The TDA will leverage it's technical expertise & leadership to cover a broad range of activities such as defining near-term and future requirements for current systems and future upgrades, maintain system performance models to evaluate system improvements, threat changes and operational environment conditions, verify models and simulations to promote program success through application of rigorous and disciplined systems engineering principles and practices in a consistent manner across system elements over the program life cycle, make prudent use of authoritative technical expertise for advice and independent review, identify a range of technically acceptable alternatives to resolve engineering issues, assist in development of T&E planning, and continue to maintain NSPO essential research and engineering capabilities and corporate memory.</p> <p>FY 2012 Plans: Provides funding for the Combat System Integration TDA who will provide engineering support for combat system performance and risk mitigation. The TDA will leverage it's technical expertise & leadership to cover a broad range of activities such as defining near-term and future requirements for current systems and future upgrades, maintain system performance models to evaluate system improvements, threat changes and operational environment conditions, verify models and simulations to promote program success through application of rigorous and disciplined systems engineering principles and practices in a consistent manner across system elements over the program life cycle, make prudent use of authoritative technical expertise for advice and independent review, identify a range of technically acceptable alternatives to resolve engineering issues, assist in development of T&E planning, and continue to maintain NSPO essential research and engineering capabilities and corporate memory.</p> | | | |
| Accomplishments/Planned Programs Subtotals | 6.876 | 4.313 | 5.351 |

| C. Other Program Funding Summary (\$ in Millions) | | | | | | | | | | | |
|--|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|-------------------|
| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> | <u>FY 2012</u> | <u>FY 2012</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> | <u>Total Cost</u> |
| | | | <u>Base</u> | <u>OCO</u> | <u>Total</u> | | | | | <u>Complete</u> | |
| • WPN 2307: <i>ESSM</i> | 51.229 | 48.152 | 48.486 | 0.000 | 48.486 | 50.944 | 70.799 | 114.854 | 116.850 | 659.843 | 1,865.457 |
| | 13.514 | 11.121 | 8.926 | 0.000 | 8.926 | 8.957 | 8.274 | 8.313 | 8.493 | 0.000 | 193.198 |

UNCLASSIFIED

| | |
|--|----------------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | DATE: February 2011 |
|--|----------------------------|

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604756N: <i>Ship Self Def (Engage: Hard Kill)</i> | PROJECT 0173: <i>NATO Sea Sparrow</i> |
|---|---|---|

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> <u>Base</u> | <u>FY 2012</u> <u>OCO</u> | <u>FY 2012</u> <u>Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
|-------------------------------------|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| • OPN 5237: <i>NATO SEA SPARROW</i> | | | | | | | | | | | |

D. Acquisition Strategy

ESSM is a directed sole source contract to Raytheon Missile Systems Company. The MK 29 ESSM Launcher Upgrade and REARC/SSDS Integration effort was a directed sole source contract to Raytheon Company Integrated Defense System.

E. Performance Metrics

Successfully complete Developmental Test/Operational testing.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604756N: <i>Ship Self Def (Engage: Hard Kill)</i> | PROJECT 0173: <i>NATO Sea Sparrow</i> |
|---|---|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| ESSM-Primary Hardware Development | C/CPAF | Raytheon:Tucson | 143.356 | - | | - | | - | | - | 0.000 | 143.356 | |
| ESSM-Primary Hardware Development | C/CPAF | Raytheon:Tucson | 3.746 | - | | - | | - | | - | 0.000 | 3.746 | 3.746 |
| Amphib Self-Defense PRA Imp | Various | various:various | 1.996 | - | | - | | - | | - | 0.000 | 1.996 | 11.200 |
| Ancillary Hardware Development | SS/CPAF | Lockhead/UDLP:various | 46.706 | - | | - | | - | | - | 0.000 | 46.706 | 46.706 |
| Systems Engineering | Various | various:various | 22.622 | - | | - | | - | | - | 0.000 | 22.622 | 22.622 |
| MK 29/ESSM Launcher upgrade | C/CPAF | Raytheon Sys:Tucson | 8.521 | - | | - | | - | | - | 0.000 | 8.521 | 8.521 |
| NATO-Primary Hdw Dev | SS/CPAF | Raytheon Sys:Tucson | 30.627 | - | | - | | - | | - | 0.000 | 30.627 | 30.627 |
| Software Development/Test | SS/CPAF | Raytheon Sys:Tucson | 7.691 | - | | - | | - | | - | 0.000 | 7.691 | |
| Systems Engineering/Firing Spt | WR | Corona:CA | 6.165 | 0.475 | Nov 2010 | 0.582 | Nov 2011 | - | | 0.582 | 0.000 | 7.222 | |
| Subtotal | | | 271.430 | 0.475 | | 0.582 | | - | | 0.582 | 0.000 | 272.487 | |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Integrated Logistics Support | WR | NSWC PHD:CA | 3.568 | - | | - | | - | | - | 0.000 | 3.568 | |
| Engr Support1 | WR | various:various | 4.207 | - | | - | | - | | - | 0.000 | 4.207 | |
| MK 29/ESSM Launcher Support | WR | Dahlgren/PHD:VA/CA | 0.375 | - | | - | | - | | - | 0.000 | 0.375 | |
| Engr Support2 | WR | various:various | 0.195 | - | | - | | - | | - | 0.000 | 0.195 | 0.195 |
| NATO-MK 91/SSDS Integ | WR | Dahlgren/PHD:VA/CA | 0.834 | - | | - | | - | | - | 0.000 | 0.834 | |
| Engr Support3 | WR | various:various | 6.364 | - | | - | | - | | - | 0.000 | 6.364 | |
| Engr Support4 | WR | APL:MD | 0.907 | 0.313 | Nov 2010 | 0.320 | Oct 2011 | - | | 0.320 | Continuing | Continuing | Continuing |
| Subtotal | | | 16.450 | 0.313 | | 0.320 | | - | | 0.320 | | | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604756N: <i>Ship Self Def (Engage: Hard Kill)</i> | PROJECT 0173: <i>NATO Sea Sparrow</i> |
|---|---|---|

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Developmental Test & Evaluation | WR | NSWC CL:CA | 15.033 | 0.665 | Nov 2010 | 0.725 | Nov 2011 | - | | 0.725 | Continuing | Continuing | Continuing |
| OPEVAL/TECHEVAL/Test Firings | WR | Corona, IHD, Dahlgren, SNSWC, PHD):various | 11.878 | - | | - | | - | | - | 0.000 | 11.878 | |
| Developmental Test & Evaluation | SS/CPFF | APL:MD | 2.604 | 0.375 | Oct 2010 | 0.866 | Oct 2011 | - | | 0.866 | Continuing | Continuing | Continuing |
| ESSM Test & Evaluation | C/CPAF | Raytheon:Tuscon | 7.245 | 0.753 | Dec 2010 | 2.648 | Nov 2011 | - | | 2.648 | Continuing | Continuing | Continuing |
| Developmental Test & Evaluation | WR | Dahlgren:VA | 0.418 | - | | - | | - | | - | 0.000 | 0.418 | 0.836 |
| Subtotal | | | 37.178 | 1.793 | | 4.239 | | - | | 4.239 | | | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|--|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| ESSM-ENGR SPT | WR | various:various | 4.913 | - | | - | | - | | - | 0.000 | 4.913 | |
| ESSM-PM SPT | WR | various:various | 0.498 | - | | - | | - | | - | 0.000 | 0.498 | 0.498 |
| ESSM-Support and Performing Activity | Allot | PHD/NAWC CL/ APL:CA/MD | 12.419 | 1.532 | Oct 2010 | - | | - | | - | Continuing | Continuing | Continuing |
| ESSM-Travel | Allot | Program Office:VA | 2.582 | 0.200 | Oct 2010 | 0.210 | Nov 2011 | - | | 0.210 | Continuing | Continuing | Continuing |
| ESSM-Misc | Various | various:various | 2.065 | - | | - | | - | | - | 0.000 | 2.065 | 2.065 |
| NATO Travel/Misc | Various | various:various | 1.831 | - | | - | | - | | - | 0.000 | 1.831 | |
| Defense Acquisition Workforce Development Fund | Various | various:various | 0.047 | - | | - | | - | | - | 0.000 | 0.047 | |
| Subtotal | | | 24.355 | 1.732 | | 0.210 | | - | | 0.210 | | | |

| | Total Prior Years Cost | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|------------------------|---------|--------------|-------------|---------------|------------------|------------|--------------------------|
| Project Cost Totals | | 349.413 | 4.313 | 5.351 | - | 5.351 | | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604756N: <i>Ship Self Def (Engage: Hard Kill)</i> | PROJECT 0173: <i>NATO Sea Sparrow</i> |
|---|---|---|

| | Total Prior Years Cost | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|--|------------------------|---------|--------------|-------------|---------------|------------------|------------|--------------------------|
|--|------------------------|---------|--------------|-------------|---------------|------------------|------------|--------------------------|

Remarks
Various used for multiple vendors and location under threshold.

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: Research, Development, Test & Evaluation, Navy
BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

PE 0604756N: Ship Self Def (Engage: Hard Kill)

PROJECT

0173: NATO Sea Sparrow

| Key Milestones | FY10 | FY11 | FY12 | FY13 | FY14 | FY15 | FY16 |
|------------------------------|------|-----------------|------------------------|---|------|--------|------|
| Platform Integration DT/OT | CCA | SSDS OA SDTS | DDG-1000 TSC E SDTS | SSDS OA DDG 1000 LRA 6 DTOT DDG-1000 | | CVN(X) | |
| Expiration of Production MOU | | | 12/11 | | | | |
| MOU Extension | | | 3/12 | | 9/14 | | |

| Activity Name | FY10 | FY11 | FY12 | FY13 | FY14 | FY15 | FY16 |
|-------------------------------------|---------------|---------------|----------|----------|----------|----------|----------|
| Buy Yr | | | | | | | |
| FY06 | Delivery 5/10 | | | | | | |
| FY07 | 7/10 | Delivery 5/11 | | | | | |
| FY08 | | 6/11 | 11/11 | | | | |
| FY09 | | Delivery | 12/11 | 12/12 | | | |
| FY10 | 12/09 CA | | Delivery | 5/12 | 5/13 | | |
| FY11 | | 7/11 CA | | Delivery | 7/13 | 12/13 | |
| FY12 | | | 12/11 CA | | Delivery | 12/13 | 11/14 |
| FY13 | | | | 12/12 CA | | Delivery | 12/14 |
| FY14 | | | | | 12/13 CA | | Delivery |
| FY15 | | | | | | 12/14 CA | Delivery |
| FY16 | | | | | | | 12/15 CA |
| Third Party Sales Production | | | | | | | |
| Buy Yr | 12/09 CA | | | | | | |
| Japan Licensed Production | | 7/11 CA | 12/11 CA | 12/12 CA | 12/13 CA | 12/14 CA | 12/15 CA |
| UAE FMS | 12/09 CA | | | | | | |

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604756N: <i>Ship Self Def (Engage: Hard Kill)</i> | PROJECT 0173: <i>NATO Sea Sparrow</i> |
|---|---|---|

Schedule Details

| Events by Sub Project | Start | | End | |
|------------------------------|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 0173 | | | | |
| Platform Intergration DT/OT | 1 | 2010 | 2 | 2016 |
| Expiration of Production MOU | 1 | 2012 | 1 | 2012 |
| MOU Extension | 2 | 2012 | 3 | 2014 |
| FY 06 FRP DELIVERIES | 1 | 2010 | 3 | 2010 |
| FY 07FRP DELIVERIES | 3 | 2010 | 3 | 2011 |
| FY 08 FRP DELIVERIES | 3 | 2011 | 1 | 2012 |
| FY 09 FRP DELIVERIES | 1 | 2012 | 3 | 2012 |
| FY 10 FRP CONTRACT AWARD | 1 | 2010 | 1 | 2010 |
| FY 10 FRP DELIVERIES | 3 | 2012 | 3 | 2013 |
| FY 11 FRP CONTRACT AWARD | 4 | 2011 | 4 | 2011 |
| FY 11 FRP DELIVERIES | 4 | 2013 | 1 | 2014 |
| FY 12 FRP CONTRACT AWARD | 1 | 2012 | 1 | 2012 |
| FY 12 FRP DELIVERIES | 1 | 2014 | 3 | 2014 |
| FY 13 FRP CONTRACT AWARD | 1 | 2013 | 1 | 2013 |
| FY 13 FRP DELIVERIES | 1 | 2015 | 1 | 2016 |
| FY 14 FRP CONTRACT AWARD | 1 | 2014 | 1 | 2014 |
| FY14 FRP DELIVERIES | 1 | 2016 | 3 | 2016 |
| FY 15 FRP CONTRACT AWARD | 1 | 2015 | 1 | 2015 |
| FY15 FRP DELIVERIES | 1 | 2016 | 3 | 2016 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604756N: <i>Ship Self Def (Engage: Hard Kill)</i> | PROJECT 9999: <i>Congressional Adds</i> |
|---|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 9999: <i>Congressional Adds</i> | 11.950 | - | - | - | - | - | - | - | - | 0.000 | 11.950 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Congressional Add.

B. Accomplishments/Planned Programs (\$ in Millions)

| | FY 2010 | FY 2011 |
|--|---------|---------|
| Congressional Add: PHALANX CIWS Future Concepts/Next Gen | 11.950 | - |
| FY 2010 Accomplishments: FY 2010 Congressional Add provides funding for Laser Phalanx | | |
| Congressional Adds Subtotals | 11.950 | - |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

Not required for Congressional Adds.

E. Performance Metrics

Not required for Congressional Adds.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604757N: <i>Ship Self Def (Engage: Soft Kill/EW)</i> |
|---|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| Total Program Element | 75.600 | 84.525 | 184.095 | - | 184.095 | 178.986 | 178.126 | 134.578 | 136.778 | Continuing | Continuing |
| 0954: <i>Shipboard EW Improvement Program</i> | 21.003 | 13.386 | 18.438 | - | 18.438 | 18.697 | 16.100 | 15.872 | 16.089 | Continuing | Continuing |
| 2190: <i>NULKA Decoy</i> | 4.598 | 5.291 | 3.520 | - | 3.520 | 2.409 | 2.402 | 2.364 | 2.294 | Continuing | Continuing |
| 3227: <i>SEWIP Block 2</i> | 49.999 | 65.848 | 43.894 | - | 43.894 | 30.362 | 3.323 | 0.965 | 0.901 | Continuing | Continuing |
| 3316: <i>Advanced Offboard EW</i> | - | - | 22.967 | - | 22.967 | 23.544 | 32.057 | 71.025 | 72.314 | Continuing | Continuing |
| 3321: <i>SEWIP Block 3</i> | - | - | 95.276 | - | 95.276 | 103.974 | 124.244 | 44.352 | 45.180 | Continuing | Continuing |

A. Mission Description and Budget Item Justification

0954 - The Surface Electronic Warfare Improvement Program (SEWIP) provides enhanced Electronic Warfare (EW) capabilities to existing and new ship combat systems to improve Anti Ship Missile Defense (ASMD), counter-targeting and counter-surveillance capabilities, as well as improved battlefield situational awareness. The SEWIP employs an evolutionary acquisition and incremental development strategy to upgrade surface EW capabilities via a series of block upgrades to the AN/SLQ-32(V) system, and field EW improvements to keep pace with the ASMD threat.

2190 - The Offboard Active Decoy (NULKA) is a joint cooperative program between the United States and Australia that developed an active offboard decoy that utilizes a broadband radio frequency repeater mounted atop a hovering rocket. NULKA is designed to counter a wide variety of present and future radar guided Anti-Ship Missiles (ASMs) by radiating a large radar cross section while flying a ship-like trajectory. The United States developed the electronic payload and fire control system, while Australia developed the hovering rocket.

3227 - SEWIP Block 2 is a separate program to develop an upgraded antenna, receiver, and combat system interface for SLQ-32. The upgrades are necessary in order to pace the threat, improving detection, accuracy, and mitigation of Electromagnetic Interference (EMI).

3316 - The Advanced Offboard EW is a long duration, offboard decoy utilizing one of a family of payload types in support of countering identified EW gaps (additional details classified). Development will include the vehicle shipboard control and integration with ship systems and sensors.

3321 - SEWIP Block 3 is a separate program that will provide an updated Electronic Attack (EA) capability to the SLQ-32(V) Electronic Warfare (EW) suite. The program will provide a new integrated EA transmitter, array, and associated techniques to enhance surface EW capability for legacy and new ship combat systems.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604757N: <i>Ship Self Def (Engage: Soft Kill/EW)</i> |
|---|--|

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 88.526 | 84.525 | 131.788 | - | 131.788 |
| Current President's Budget | 75.600 | 84.525 | 184.095 | - | 184.095 |
| Total Adjustments | -12.926 | - | 52.307 | - | 52.307 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | -9.600 | - | | | |
| • SBIR/STTR Transfer | -3.085 | - | | | |
| • Program Adjustments | - | - | 54.423 | - | 54.423 |
| • Section 219 Reprogramming | -0.239 | - | - | - | - |
| • Rate/Misc Adjustments | - | - | -2.116 | - | -2.116 |
| • Congressional General Reductions Adjustments | -0.002 | - | - | - | - |

Change Summary Explanation

Program changes in FY10 include minor program changes (-9.6M) due to execution realignments by the department for higher priority needs.

Program changes in FY12 include moving funds from SEWIP Block 2 (PU 3227) to SEWIP Block 3 (PU 3321) and adding additional funds for SEWIP Block 3. A new start program Advanced Offboard EW was also established in FY12.

Technical: Not applicable.

Schedule: Not applicable.

UNCLASSIFIED

| | | | | | | | | | | | |
|---|----------------|----------------|---------------------|---|----------------------|----------------|----------------|---|----------------|-------------------------|-------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | | | | | | | DATE: February 2011 | | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | R-1 ITEM NOMENCLATURE PE 0604757N: <i>Ship Self Def (Engage: Soft Kill/ EW)</i> | | | | PROJECT 0954: <i>Shipboard EW Improvement Program</i> | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| 0954: <i>Shipboard EW Improvement Program</i> | 21.003 | 13.386 | 18.438 | - | 18.438 | 18.697 | 16.100 | 15.872 | 16.089 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

SEWIP provides enhanced EW capabilities to existing and new ship combat systems to improve ASMD, counter-targeting and counter surveillance capabilities, as well as improved situational awareness. The SEWIP employs an evolutionary acquisition and incremental development strategy to upgrade surface EW capabilities via a series of block upgrades to the AN/SLQ-32(V) system, and field EW improvements to keep pace with the ASMD threat. SEWIP will provide required EW capabilities and will incorporate technology advances as they become available to provide incremental upgrades and improvements in performance.

SEWIP Block 1 is segmented into Block 1A, and Block 1B, ALQ-210 integration, and EW Rapid Capability Insertion Process (RCIP). Block 1A upgrades the AN/SLQ-32 pulse-processing computers and the display console allowing the system to more quickly identify threats and better display the information to the operator. Block 1A Electronic Surveillance Enhancements (ESE) pulse processing computers and the Improved Control and Display (ICAD) Human System Interface (HSI) console partially open the electronic warfare system architecture to support subsequent EW capability upgrades. Block 1B adds adjunct sensors for special signal intercept, including Specific Emitter Identification (SEI), and High Gain High Sensitivity (HGHS) (Block 1B3), a critical improvement for threat correlation, situational awareness, and extending the battle space. ALQ-210 integration will develop capability to use and integrate ES controls and data between AN/SLQ-32 and the ALQ-210 on the MH60R. Modeled on the Acoustic Rapid COTS Insertion (ARCI) process, EW RCIP will solicit, assess, and integrate new technologies and other improvements required to keep the EW system perpetually ahead of the threat.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|--|----------------|----------------|----------------|
| Title: Block 1B3 | 15.711 | 6.724 | 10.922 |
| Articles: | 0 | 0 | 0 |
| FY 2010 Accomplishments: Continue E&MD of the HGHS subsystem, commence integration with the 1B2-enhanced AN/SLQ-32B(V) system. | | | |
| FY 2011 Plans: Complete E&MD by taking delivery of Engineering Development Models (EDMs). Commence integration and testing of EDMs. | | | |
| FY 2012 Plans: Continue Integration and testing. At-sea testing of 1B3 HGHS begins at the end of 4th quarter 2012 and will complete during 1st quarter 2013. | | | |
| Title: V(4) Electronic Surveillance Enhancements (ESE) | 3.292 | 4.612 | 2.750 |
| Articles: | 0 | 0 | 0 |

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604757N: <i>Ship Self Def (Engage: Soft Kill/ EW)</i> | PROJECT 0954: <i>Shipboard EW Improvement Program</i> |

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|---|----------------|----------------|----------------|
| <p>FY 2010 Accomplishments: Continue development of V(4) ESE upgrade.</p> <p>FY 2011 Plans: Complete development of V(4) ESE upgrade. Take delivery of EDMs. Conduct at-sea testing of V(4) ESE upgraded SLQ-32(V)4 system.</p> <p>FY 2012 Plans: Analyze and correct deficiencies.</p> | | | |
| <p>Title: EW RCIP</p> <p align="right">Articles:</p> | - | - | 1.636 0 |
| <p>FY 2012 Plans: Identify, assess and develop RCIP capabilities.</p> | | | |
| <p>Title: Shipboard Integration</p> <p align="right">Articles:</p> | 2.000 0 | 2.050 0 | 3.130 0 |
| <p>FY 2010 Accomplishments: Continued development capability to use and integrate ES controls and data between ALQ210 (on the MH60R) and AN/SLQ-32.</p> <p>FY 2011 Plans: Continue development to use and integrate ES controls and data between ALQ210 (on the MH60R) and AN/SLQ-32.</p> <p>FY 2012 Plans: Continue development capability to use and integrate ES controls and data between ALQ210 (on the MH60R) and AN/SLQ-32.</p> | | | |
| Accomplishments/Planned Programs Subtotals | 21.003 | 13.386 | 18.438 |

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> <u>Base</u> | <u>FY 2012</u> <u>OCO</u> | <u>FY 2012</u> <u>Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
|---|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| • 0204228N/2312: <i>OPN BA-2 AN/SLQ-32(V)</i> | 31.171 | 49.677 | 43.096 | 0.000 | 43.096 | 95.151 | 220.722 | 272.913 | 455.344 | Continuing | Continuing |
| | 5.048 | 8.622 | 10.464 | 0.000 | 10.464 | 10.728 | 10.782 | 10.856 | 11.064 | Continuing | Continuing |

UNCLASSIFIED

| | |
|--|----------------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | DATE: February 2011 |
|--|----------------------------|

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604757N: <i>Ship Self Def (Engage: Soft Kill/ EW)</i> | PROJECT 0954: <i>Shipboard EW Improvement Program</i> |
|---|---|---|

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> <u>Base</u> | <u>FY 2012</u> <u>OCO</u> | <u>FY 2012</u> <u>Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
|--|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| • 24575N & 72827N/1C2C: <i>OMN BA-1 AN/SLQ-32(V)</i> | | | | | | | | | | | |

D. Acquisition Strategy

SEWIP will develop Block upgrades to SLQ-32 based on integrating technology advances and adding functional capabilities in an incremental fashion. Each Block and Sub-Block will be developed and contracted in an individual yet coordinated and overlapping fashion.

E. Performance Metrics

- Successfully complete 1B3 Operational Assessment prior to MS C.
- Successfully achieve Block 1B3 Milestone C / Low Rate Initial Production (LRIP) Decision Review (DR).
- Successfully complete Block 1B3 Operational Evaluation (OPEVAL).
- Successfully achieve Block 1B3 Full Rate Production (FRP) DR.

- Successfully identify RCIP capabilities.
- Successfully identify and assess RCIP Science & Technology candidates.
- Successfully demonstrate and validate RCIP capabilities.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604757N: <i>Ship Self Def (Engage: Soft Kill/ EW)</i> | PROJECT 0954: <i>Shipboard EW Improvement Program</i> |
|---|---|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Ancillary Hardware Development | Various | Various:Various | 151.420 | - | | - | | - | | - | 0.000 | 151.420 | |
| ESE Development | SS/CPFF | Northrop Grumman:Goleta, CA | 11.740 | 2.000 | Jan 2011 | 0.438 | Nov 2011 | - | | 0.438 | Continuing | Continuing | Continuing |
| ICAD Development | SS/CPFF | GD-AIS:Fairfax, VA | 11.747 | - | | - | | - | | - | 0.000 | 11.747 | |
| ESE Development (Block 1A) | SS/CPFF | Northrop Grumman:Goleta, CA | 0.471 | - | | - | | - | | - | 0.000 | 0.471 | |
| System Integrator | C/CPAF | GD-AIS:Fairfax, VA | 13.798 | - | | - | | - | | - | 0.000 | 13.798 | |
| 1B Development | SS/CPIF | GD-AIS:Fairfax, VA | 80.856 | 2.107 | Feb 2011 | 0.662 | Nov 2011 | - | | 0.662 | Continuing | Continuing | Continuing |
| Q-70 Mods | C/CPFF | LM-EAGAN:Eagan, MN | 3.491 | - | | - | | - | | - | 0.000 | 3.491 | |
| Block 2 Study/Development | C/CPIF | BAE:Nashua, NH | 0.336 | - | | - | | - | | - | 0.000 | 0.336 | |
| Rapid Capability Insertion Process | TBD | TBD:TBD | - | - | | 1.000 | Nov 2011 | - | | 1.000 | Continuing | Continuing | Continuing |
| ALQ210 Integration | WR | NSWC Dahlgren:Dahlgren, VA | 2.000 | 2.050 | Feb 2011 | 3.130 | Nov 2011 | - | | 3.130 | Continuing | Continuing | Continuing |
| Subtotal | | | 275.859 | 6.157 | | 5.230 | | - | | 5.230 | | | |

Remarks

Ancillary Hardware Development included several contractors from the original development of the SLQ-32 system. This line has been left on the exhibit to track Prior year costs of this PU.
Product Development for RCIP is in a competitive status.

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|--------------------------------------|-----------------------------------|--|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Block 1 Integrated Logistics Support | WR | NSWC Crane, DD, NRL, APL:Crane, IN; Dahlgren, VA; Washington, DC; Laurel, MD | 9.912 | - | | - | | - | | - | 0.000 | 9.912 | |
| | WR | NSWC Crane:Crane, IN | - | 0.415 | Nov 2010 | 0.177 | Nov 2011 | - | | 0.177 | Continuing | Continuing | Continuing |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604757N: <i>Ship Self Def (Engage: Soft Kill/ EW)</i> | PROJECT 0954: <i>Shipboard EW Improvement Program</i> |
|---|---|---|

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | Target Value of Contract | |
|--|------------------------|--|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|--|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | | |
| Block 1 Integrated Logistics Support | | | | | | | | | | | | | | |
| Block 1 Integrated Logistics Support | WR | NSWC DD:Dahlgren, VA | - | 0.104 | Nov 2010 | 0.045 | Nov 2011 | - | | 0.045 | Continuing | Continuing | Continuing | |
| Block 1 Government Engineering Support | WR | NSWC Crane, DD, NRL, APL:Crane, IN; Dahlgren, VA; Washington, DC; Laurel, MD | 34.783 | - | | - | | - | | - | 0.000 | 34.783 | | |
| Block 1 Government Engineering Support | WR | NSWC Dahlgren:Dahlgren, VA | - | 0.532 | Nov 2010 | 0.356 | Nov 2011 | - | | 0.356 | Continuing | Continuing | Continuing | |
| Block 1 Government Engineering Support | WR | NSWC Crane:Crane, IN | - | 0.471 | Nov 2010 | 0.318 | Nov 2011 | - | | 0.318 | Continuing | Continuing | Continuing | |
| Block 1 Government Engineering Support | WR | NRL:Washington, DC | - | 0.517 | Nov 2010 | 0.343 | Nov 2011 | - | | 0.343 | Continuing | Continuing | Continuing | |
| Block 2 Integrated Logistics Support | WR | NSWC Crane, DD, NRL:Crane, IN; Dahlgren, VA; Washington, DC | 0.540 | - | | - | | - | | - | 0.000 | 0.540 | | |
| Block 2 Government Engineering Support | WR | NSWC Crane, DD, NRL:Crane, IN; Dahlgren, VA; Washington, DC | 2.496 | - | | - | | - | | - | 0.000 | 2.496 | | |
| Subtotal | | | 47.731 | 2.039 | | 1.239 | | - | | 1.239 | | | | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | Target Value of Contract |
|---|------------------------|---|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | |
| Block 1 Integration and Test | WR | NSWC Crane, DD, NRL:Crane, IN; Dahlgren, VA; Washington, DC | 0.853 | - | | - | | - | | - | 0.000 | 0.853 | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604757N: <i>Ship Self Def (Engage: Soft Kill/ EW)</i> | PROJECT 0954: <i>Shipboard EW Improvement Program</i> |
|---|---|---|

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Developmental Test & Evaluation | Various | Various:Various | 8.958 | - | | - | | - | | - | 0.000 | 8.958 | |
| Block 1A Test Planning/T&E Events | WR | NSWC Crane, DD, NRL:Crane, IN; Dahlgren, VA; Washington, DC | 11.036 | - | | - | | - | | - | 0.000 | 11.036 | |
| Block 1B Test Planning/T&E Events | WR | NSWC Crane, DD, NRL, NAVAIR, OPTEVFOR, NSWC PHD:Crane, IN; Dahlgren, VA; Washington, DC; MD; CA | 9.567 | - | | - | | - | | - | 0.000 | 9.567 | |
| Block 1B Test Planning/T&E Events | WR | NSWC Dahlgren:Dahlgren, VA | - | 0.503 | Nov 2010 | 2.516 | Nov 2011 | - | | 2.516 | Continuing | Continuing | Continuing |
| Block 1B Test Planning/T&E Events | WR | NSWC Crane:Crane, IN | - | 0.445 | Nov 2010 | 2.433 | Nov 2011 | - | | 2.433 | Continuing | Continuing | Continuing |
| Block 1B Test Planning/T&E Events | WR | NRL:Washington, DC | - | 0.489 | Nov 2010 | 2.683 | Nov 2011 | - | | 2.683 | Continuing | Continuing | Continuing |
| (V)4 ESE Test Planning/T&E Events | WR | NSWC Crane, DD, NRL:Crane, IN; Dahlgren, VA; Washington, DC | 0.686 | - | | - | | - | | - | 0.000 | 0.686 | |
| (V)4 ESE Test Planning/T&E Events | WR | NSWC Dahlgren:Dahlgren, VA | - | 0.602 | Nov 2010 | 0.763 | Nov 2011 | - | | 0.763 | Continuing | Continuing | Continuing |
| (V)4 ESE Test Planning/T&E Events | WR | NSWC Crane:Crane, IN | - | 0.534 | Nov 2010 | 0.740 | Nov 2011 | - | | 0.740 | Continuing | Continuing | Continuing |
| (V)4 ESE Test Planning/T&E Events | WR | NRL:Washington, DC | - | 0.585 | Nov 2010 | 0.810 | Nov 2011 | - | | 0.810 | Continuing | Continuing | Continuing |
| Block 2 Test Planning/T&E Events | WR | NSWC Crane, DD, NRL:Crane, IN; Dahlgren, VA; Washington, DC | 0.941 | - | | - | | - | | - | 0.000 | 0.941 | |
| Subtotal | | | 32.041 | 3.158 | | 9.945 | | - | | 9.945 | | | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604757N: <i>Ship Self Def (Engage: Soft Kill/ EW)</i> | PROJECT 0954: <i>Shipboard EW Improvement Program</i> |
|---|---|---|

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | Cost To Complete | Total Cost | Target Value of Contract |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | | | |

Remarks
Development Test & Evaluation included several activities from the original development of the SLQ-32 system. This line has been left on the exhibit to track Prior year costs of this PU.

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | Cost To Complete | Total Cost | Target Value of Contract |
|---|------------------------|---|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | | | |
| Block 1 Program Management | C/CPIF | SPA (SEAPORT):Washington, D.C. | 28.635 | 0.501 | Feb 2011 | 0.742 | Nov 2011 | - | | 0.742 | Continuing | Continuing | Continuing | |
| Block 1 Program Management Support | WR | NSWC Crane, DD, NRL:Crane, IN; Dahlgren, VA; Washington, DC | 17.310 | - | | - | | - | | - | 0.000 | 17.310 | | |
| Block 1 Program Management Support | WR | NSWC Crane:Crane, IN | - | 0.466 | Nov 2010 | 0.389 | Nov 2011 | - | | 0.389 | Continuing | Continuing | Continuing | |
| Block 1 Program Management Support | WR | NSWC Dahlgren:Dahlgren, VA | - | 0.413 | Nov 2010 | 0.378 | Nov 2011 | - | | 0.378 | Continuing | Continuing | Continuing | |
| Block 1 Program Management Support | WR | NRL:Washington, DC | - | 0.452 | Nov 2010 | 0.415 | Nov 2011 | - | | 0.415 | Continuing | Continuing | Continuing | |
| Block 1 Travel | WR | NAVSEA Program Office Travel:Washington, DC | 0.805 | 0.200 | Nov 2010 | 0.100 | Nov 2011 | - | | 0.100 | Continuing | Continuing | Continuing | |
| Block 1 DoD Acquisition Workforce Fund | Various | Various:Various | 0.126 | - | | - | | - | | - | 0.000 | 0.126 | | |
| Block 2 Program Management Support | C/FFP | AT&T Gov't Solutions (SEAPORT):Washington, DC | 0.023 | - | | - | | - | | - | 0.000 | 0.023 | | |
| Block 2 Program Management Support | WR | NSWC Crane, DD, NRL:Various | 0.823 | - | | - | | - | | - | 0.000 | 0.823 | | |
| Block 2 Travel | WR | | 0.050 | - | | - | | - | | - | 0.000 | 0.050 | | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY
1319: Research, Development, Test & Evaluation, Navy
BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE
PE 0604757N: Ship Self Def (Engage: Soft Kill/
EW)

PROJECT
0954: Shipboard EW Improvement Program

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|--------------------------------------|------------------------|---|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| | | NAVSEA Program Office Travel: Washington, DC | | | | | | | | | | | |
| Subtotal | | | 47.772 | 2.032 | | 2.024 | | - | | 2.024 | | | |
| | | | Total Prior Years Cost | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
| Project Cost Totals | | | 403.403 | 13.386 | | 18.438 | | - | | 18.438 | | | |

Remarks

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: Research, Development, Test & Evaluation, Navy
BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

PE 0604757N: Ship Self Def (Engage: Soft Kill/
EW)

PROJECT

0954: Shipboard EW Improvement Program

| Fiscal Year | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | 2014 | | | | 2015 | | | | 2016 | | | | | | | |
|---|------------------------------------|---|---|---|------|---|---|---|--|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|--|--|--|--|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | | | | |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Block 1 Development/Integration | 1B3 HGHS Development & Integration | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | V(4) ESE Development & Integration | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | ALQ210 Integration | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | EW Rapid Capability Insertion Process (RCIP) | | | | | | | | | | | | | | | | | | | | | | | |
| Block 1B Test and Evaluation Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Development Test | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operational Test | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604757N: <i>Ship Self Def (Engage: Soft Kill/ EW)</i> | PROJECT 0954: <i>Shipboard EW Improvement Program</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| <i>Proj 0954</i> | | | | |
| 1B3 HGHS Development & Integration | 1 | 2010 | 4 | 2011 |
| V(4) ESE Development & Integration | 1 | 2010 | 4 | 2011 |
| ALQ210 Integration | 1 | 2010 | 1 | 2014 |
| EW Rapid Capability Insertion Process (RCIP) | 1 | 2012 | 4 | 2016 |
| Block 1B3 MS C/LRIP DR | 1 | 2012 | 1 | 2012 |
| 1B3 FQT & DT/OT | 3 | 2011 | 4 | 2012 |
| Block 1B3 TECHEVAL | 4 | 2012 | 4 | 2012 |
| Block 1B3 OPEVAL | 4 | 2012 | 1 | 2013 |
| Block 1B3 FRP DR | 2 | 2013 | 2 | 2013 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604757N: <i>Ship Self Def (Engage: Soft Kill/ EW)</i> | PROJECT 2190: <i>NULKA Decoy</i> |
|---|---|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|----------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 2190: <i>NULKA Decoy</i> | 4.598 | 5.291 | 3.520 | - | 3.520 | 2.409 | 2.402 | 2.364 | 2.294 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

The Offboard Active Decoy (NULKA) is a joint cooperative program between the United States and Australia that developed an active offboard decoy that utilizes a broadband radio frequency repeater mounted atop a hovering rocket. NULKA is designed to counter a wide variety of present and future radar guided Anti-Ship Missiles (ASMs) by radiating a large radar cross section while flying a ship-like trajectory. The United States developed the electronic payload and fire control system, while Australia developed the hovering rocket. Future efforts involve development of the capability for high value unit protection.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|---|-----------------------|-----------------------|-----------------------|
| <p>Title: NULKA Decoy Subsystem</p> <p align="right">Articles:</p> <p>FY 2010 Accomplishments: NULKA decoy subsystem integration and improvements to include Effectiveness Studies, Engineering Studies and Fly Out Tactics.</p> <p>FY 2011 Plans: NULKA decoy subsystem integration and improvements to include Effectiveness Studies, Engineering Studies and Fly Out Tactics.</p> <p>FY 2012 Plans: NULKA decoy subsystem integration and improvements to include Effectiveness Studies, Engineering Studies and Fly Out Tactics.</p> | <p>1.600</p> <p>0</p> | <p>1.600</p> <p>0</p> | <p>1.600</p> <p>0</p> |
| <p>Title: NULKA Decoy Enhancements</p> <p align="right">Articles:</p> <p>FY 2010 Accomplishments: Conducted design and development efforts aimed at increasing the interoperability between NULKA and emerging surface ship radars.</p> <p>FY 2011 Plans: Continue the development of NULKA decoy enhancements to include increased duty cycle and Electromagnetic Compatibility (EMC).</p> <p>FY 2012 Plans:</p> | <p>0.430</p> <p>0</p> | <p>1.691</p> <p>0</p> | <p>0.471</p> <p>0</p> |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604757N: <i>Ship Self Def (Engage: Soft Kill/ EW)</i> | PROJECT 2190: <i>NULKA Decoy</i> |
|---|---|--|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|--|---------|---------|---------|
| Continue the development of NULKA decoy enhancements to include increased duty cycle and EMC. | | | |
| Title: NULKA Software | 2.568 | 2.000 | 1.449 |
| Articles: | 0 | 0 | 0 |
| Description: | | | |
| FY 2010 Accomplishments: Upgrade Launching System software to provide CVN protection capability. | | | |
| FY 2011 Plans: Upgrade Launching System software to provide CVN protection capability. | | | |
| FY 2012 Plans: Complete upgrade Launching System software to provide CVN protection capability. | | | |
| Accomplishments/Planned Programs Subtotals | 4.598 | 5.291 | 3.520 |

| C. Other Program Funding Summary (\$ in Millions) | | | | | | | | | | | |
|--|---------|---------|-----------------|----------------|------------------|---------|---------|---------|---------|---------------------|------------|
| Line Item | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| • OPN/5530: <i>Anti-Ship Missile Decoy System</i> | 33.524 | 36.588 | 32.716 | 0.000 | 32.716 | 31.754 | 30.204 | 48.659 | 68.231 | Continuing | Continuing |
| • OMN/12CR0 (1C2C): <i>Nulka</i> | 4.216 | 4.526 | 6.140 | 0.000 | 6.140 | 7.447 | 7.781 | 8.146 | 8.294 | Continuing | Continuing |

D. Acquisition Strategy
NULKA is a joint cooperative program between United States and Australia in full rate production.

E. Performance Metrics
Successfully complete Critical Design Review (CDR) for MK 53 Decoy Launch System (DLS) upgrade for CVN class.
Successfully complete first-of-class testing of MK 53 DLS upgrade for CVN.
NULKA will complete Decoy Launch Processor (DLP) software version 6_5 Beta 1 for CVN 68 ship class.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604757N: <i>Ship Self Def (Engage: Soft Kill/ EW)</i> | PROJECT 2190: <i>NULKA Decoy</i> |
|---|---|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Primary Hardware Development | WR | Lockheed Martin:Sippican, MA | 6.149 | 0.497 | Mar 2011 | - | | - | | - | Continuing | Continuing | Continuing |
| Primary Hardware Development | MIPR | BAE Systems:Australia | 6.792 | 0.500 | Mar 2011 | 0.450 | Nov 2011 | - | | 0.450 | Continuing | Continuing | Continuing |
| Systems Engineering | WR | NRL:Washington, DC | 13.887 | 1.450 | Nov 2010 | 1.200 | Nov 2011 | - | | 1.200 | Continuing | Continuing | Continuing |
| Systems Engineering | WR | NWAD:China Lake, CA | 0.120 | - | | - | | - | | - | 0.000 | 0.120 | |
| MK 53 System Eng Changes | C/FFP | Sechan:PA | 0.150 | - | | - | | - | | - | 0.000 | 0.150 | |
| Systems Engineering | WR | NSWC Dahlgren:Dahlgren, VA | 3.118 | 1.616 | Nov 2010 | 1.320 | Nov 2011 | - | | 1.320 | Continuing | Continuing | Continuing |
| Systems Engineering | WR | NSMA:VA | 0.360 | - | | - | | - | | - | 0.000 | 0.360 | |
| Systems Engineering | WR | NSWC Crane:IN | 4.928 | 0.818 | Nov 2010 | 0.230 | Nov 2011 | - | | 0.230 | Continuing | Continuing | Continuing |
| Subtotal | | | 35.504 | 4.881 | | 3.200 | | - | | 3.200 | | | |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Development Support | WR | NRL:Washington, DC | 1.314 | - | | - | | - | | - | 0.000 | 1.314 | |
| Software Development | WR | NSWC Dahlgren:Dahlgren, VA | 2.527 | - | | - | | - | | - | 0.000 | 2.527 | |
| Subtotal | | | 3.841 | - | | - | | - | | - | 0.000 | 3.841 | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Developmental Test & Evaluation | WR | NSWC Dahlgren:Dahlgren, VA | 0.700 | - | | - | | - | | - | 0.000 | 0.700 | |
| Developmental Test & Evaluation | WR | NRL:Washington, DC | 1.181 | - | | - | | - | | - | 0.000 | 1.181 | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604757N: <i>Ship Self Def (Engage: Soft Kill/ EW)</i> | PROJECT 2190: <i>NULKA Decoy</i> |
|---|---|--|

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Test Assets | WR | NRL:Washington, DC | 0.701 | - | | - | | - | | - | 0.000 | 0.701 | |
| Test Support | WR | BAE Systems:Australia | 0.050 | - | | - | | - | | - | 0.000 | 0.050 | |
| Subtotal | | | 2.632 | - | | - | | - | | - | 0.000 | 2.632 | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Program Management Support | C/CPIF | SPA (Seaport)::Washington, DC | - | 0.350 | Jan 2011 | 0.270 | Nov 2011 | - | | 0.270 | Continuing | Continuing | Continuing |
| Program Management Support | C/FFP | AT&T Gov't Solutions (SEAPORT)::Washington, DC | 1.147 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Travel | WR | NAVSEA Program Office Travel:Washington, DC | 0.508 | 0.060 | Nov 2010 | 0.050 | Nov 2011 | - | | 0.050 | Continuing | Continuing | Continuing |
| DoD Acquisition Workforce Fund (DAWDF) | Various | Various:Various | 0.015 | - | | - | | - | | - | 0.000 | 0.015 | |
| Subtotal | | | 1.670 | 0.410 | | 0.320 | | - | | 0.320 | | | |

| | Total Prior Years Cost | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|------------------------|---------|--------------|-------------|---------------|------------------|------------|--------------------------|
| Project Cost Totals | | 43.647 | 5.291 | 3.520 | - | 3.520 | | |

Remarks

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604757N: <i>Ship Self Def (Engage: Soft Kill/ EW)</i> | PROJECT 2190: <i>NULKA Decoy</i> |
|---|---|--|

| Fiscal Year | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | 2014 | | | | 2015 | | | | 2016 | | | | |
|---|------|------------------|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|--------------|------|---|---|---|------|---|---|---|--|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Milestones | ▲ | CVN DLP Software | | | | | | | ▲ | | | | | | | | | | | | | | | | | | | | |
| Test & Evaluation Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Development Test | | | | | | | | | | | | | | | | | | | ▲ | CVN Class DT | | | | | | | | | |
| Operational Test | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604757N: <i>Ship Self Def (Engage: Soft Kill/ EW)</i> | PROJECT 2190: <i>NULKA Decoy</i> |
|---|---|--|

Schedule Details

| Events by Sub Project | Start | | End | |
|-----------------------------|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| <i>Proj 2190</i> | | | | |
| CVN DLP SOFTWARE | 1 | 2010 | 2 | 2012 |
| CVN CLASS DT | 1 | 2014 | 1 | 2014 |
| LHA 6 INSTALL CERTIFICATION | 3 | 2014 | 3 | 2014 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604757N: <i>Ship Self Def (Engage: Soft Kill/ EW)</i> | PROJECT 3227: <i>SEWIP Block 2</i> |
|---|---|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|----------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 3227: <i>SEWIP Block 2</i> | 49.999 | 65.848 | 43.894 | - | 43.894 | 30.362 | 3.323 | 0.965 | 0.901 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

The SEWIP Block 2 program is developing an upgraded antenna, receiver, and combat system interface for SLQ-32. The upgrades are necessary in order to pace the threat, improving detection, accuracy, and mitigation of EMI. Development of SEWIP Block 3 will commence to add Electronic Attack capability. FY12-FY16 SEWIP Block 3 RDT&E funding reports under a separate PU (3321), in PE 0604757N.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| Title: SEWIP Block 2 | 49.999 | 61.133 | 43.894 |
| Articles: | 0 | 0 | 0 |
| FY 2010 Accomplishments: Commenced Engineering and Manufacturing Development (E&MD) of the SEWIP Block 2 system. Successfully achieved Block 2 Milestone B in May 2010. | | | |
| FY 2011 Plans: Continue E&MD of SEWIP Block 2. Commence integrated testing. | | | |
| FY 2012 Plans: Continue E&MD of SEWIP Block 2. Continue integrated testing. | | | |
| Title: SEWIP Block 3 | - | 4.715 | - |
| Articles: | | 0 | |
| FY 2011 Plans: Conduct Technology Development and testing in support of technology transition from Office Of Naval Research (ONR), including the TEWM. | | | |
| Accomplishments/Planned Programs Subtotals | 49.999 | 65.848 | 43.894 |

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012 Base</u> | <u>FY 2012 OCO</u> | <u>FY 2012 Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To Complete</u> | <u>Total Cost</u> |
|--|----------------|----------------|---------------------|--------------------|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| • 0204228N/2312: <i>OPN BA-2 AN/ SLQ-32(V)</i> | 31.171 | 49.677 | 43.096 | 0.000 | 43.096 | 95.151 | 220.722 | 272.913 | 453.344 | Continuing | Continuing |

UNCLASSIFIED

| | |
|--|----------------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | DATE: February 2011 |
|--|----------------------------|

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604757N: <i>Ship Self Def (Engage: Soft Kill/ EW)</i> | PROJECT 3227: <i>SEWIP Block 2</i> |
|---|---|--|

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> <u>Base</u> | <u>FY 2012</u> <u>OCO</u> | <u>FY 2012</u> <u>Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
|--|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| • 24575N & 72827N/1C2C: <i>OMN</i> <i>BA-1 AN/SLQ-32(V)</i> | 5.048 | 8.622 | 10.464 | 0.000 | 10.464 | 10.728 | 10.782 | 10.856 | 11.064 | Continuing | Continuing |

D. Acquisition Strategy

SEWIP will develop Block upgrades to SLQ-32 based on integrating technology advances and adding functional capabilities in an incremental fashion. Each Block and Sub-Block will be developed and contracted in an individual yet coordinated and overlapping fashion.

E. Performance Metrics

- Successfully achieve Block 2 MS C / LRIP DR.
- Successfully complete Block 2 Initial Operational Test & Evaluation (IOT&E).
- Successfully achieve Block 2 Full Rate Production (FRP) DR.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604757N: <i>Ship Self Def (Engage: Soft Kill/ EW)</i> | PROJECT 3227: <i>SEWIP Block 2</i> |
|---|---|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Block 2 E&MD | C/CPIF | Lockheed Martin:Syracuse, NY | 27.935 | 38.612 | Jan 2011 | 24.953 | Nov 2011 | - | | 24.953 | Continuing | Continuing | Continuing |
| Block 2 Preliminary Development | C/CPIF | Lockheed Martin:Syracuse, NY | 17.211 | - | | - | | - | | - | 0.000 | 17.211 | |
| Subtotal | | | 45.146 | 38.612 | | 24.953 | | - | | 24.953 | | | |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|--|------------------------|---|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Block 2 Integrated Logistics Support | WR | NSWC Crane, DD, NRL, APL:Crane, IN; Dahlgren, VA; Washington DC; Laurel, MD | 0.769 | - | | - | | - | | - | 0.000 | 0.769 | |
| Block 2 Integrated Logistics Support | WR | NSWC Crane:Crane, IN | - | 0.865 | Nov 2010 | 0.244 | Nov 2011 | - | | 0.244 | Continuing | Continuing | Continuing |
| Block 2 Integrated Logistics Support | WR | NSWC Corona:Corona, CA | - | - | Nov 2010 | 0.098 | Nov 2011 | - | | 0.098 | Continuing | Continuing | Continuing |
| Block 2 Government Engineering Support | WR | NSWC Crane, DD, NRL, APL:Crane, IN; Dahlgren, VA; Washington DC; Laurel, MD | 12.214 | - | | - | | - | | - | 0.000 | 12.214 | |
| Block 2 Government Engineering Support | WR | NSWC Dahlgren:Dahlgren, VA | - | 3.748 | Nov 2010 | 1.388 | Nov 2011 | - | | 1.388 | Continuing | Continuing | Continuing |
| Block 2 Government Engineering Support | WR | NSWC Crane:Crane, IN | - | 1.629 | Nov 2010 | 1.263 | Nov 2011 | - | | 1.263 | Continuing | Continuing | Continuing |
| Block 2 Government Engineering Support | WR | NRL:Washington, DC | - | 1.340 | Nov 2010 | 1.394 | Nov 2011 | - | | 1.394 | Continuing | Continuing | Continuing |
| Block 2 Government Engineering Support | WR | Navy Post Graduate School:Monterey, CA | - | 0.500 | Nov 2010 | 0.500 | Nov 2011 | - | | 0.500 | Continuing | Continuing | Continuing |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604757N: <i>Ship Self Def (Engage: Soft Kill/ EW)</i> | PROJECT 3227: <i>SEWIP Block 2</i> |
|---|---|--|

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|--|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Block 2 Government Engineering Support | FFRDC | APL:Laurel, MD | - | 4.210 | Nov 2010 | 1.203 | Nov 2011 | - | | 1.203 | Continuing | Continuing | Continuing |
| Block 3 Integrated Logistics Support | WR | NSWC Dahlgren:Dahlgren, VA | - | 0.150 | Nov 2010 | - | | - | | - | 0.000 | 0.150 | |
| Block 3 Integrated Logistics Support | WR | NSWC Crane:Crane, IN | - | 0.160 | Nov 2010 | - | | - | | - | 0.000 | 0.160 | |
| Block 3 Integrated Logistics Support | WR | NRL:Washington, DC | - | 0.100 | Nov 2010 | - | | - | | - | 0.000 | 0.100 | |
| Block 3 Integrated Logistics Support | FFRDC | APL:Laurel, MD | - | 0.140 | Nov 2010 | - | | - | | - | 0.000 | 0.140 | |
| Block 3 Government Engineering Support | WR | NSWC Dahlgren:Dahlgren, VA | - | 0.588 | Nov 2010 | - | | - | | - | 0.000 | 0.588 | |
| Block 3 Government Engineering Support | WR | NSWC Crane:Crane, IN | - | 0.574 | Nov 2010 | - | | - | | - | 0.000 | 0.574 | |
| Block 3 Government Engineering Support | WR | NRL:Washington, DC | - | 0.650 | Nov 2010 | - | | - | | - | 0.000 | 0.650 | |
| Block 3 Government Engineering Support | FFRDC | APL:Laurel, MD | - | 0.423 | Nov 2010 | - | | - | | - | 0.000 | 0.423 | |
| Subtotal | | | 12.983 | 15.077 | | 6.090 | | - | | 6.090 | | | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|---|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Block 2 Test Planning/T&E Events | WR | NSWC Crane, DD, NRL:Crane, IN; Dahlgren, VA; Washington DC; | 1.582 | - | | - | | - | | - | 0.000 | 1.582 | |
| Block 2 Test Planning/T&E Events | WR | NSWC Crane:Crane, IN | - | 0.986 | Nov 2010 | 2.500 | Nov 2011 | - | | 2.500 | Continuing | Continuing | Continuing |
| Block 2 Test Planning/T&E Events | WR | NSWC Dahlgren:Dahlgren, VA | - | 3.719 | Nov 2010 | 2.200 | Nov 2011 | - | | 2.200 | Continuing | Continuing | Continuing |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604757N: <i>Ship Self Def (Engage: Soft Kill/ EW)</i> | PROJECT 3227: <i>SEWIP Block 2</i> |
|---|---|--|

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Block 2 Test Planning/T&E Events | WR | NRL:Washington, DC | - | 1.220 | Nov 2010 | 2.800 | Nov 2011 | - | | 2.800 | Continuing | Continuing | Continuing |
| Block 3 Test Planning/T&E Events | WR | NSWC Dahlgren:Dahlgren, VA | - | 0.100 | Nov 2010 | - | | - | | - | 0.000 | 0.100 | |
| Block 3 Test Planning/T&E Events | WR | NSWC Crane:Crane, IN | - | 0.080 | Nov 2010 | - | | - | | - | 0.000 | 0.080 | |
| Block 3 Test Planning/T&E Events | WR | NRL:Washington, DC | - | 0.129 | Nov 2010 | - | | - | | - | 0.000 | 0.129 | |
| Subtotal | | | 1.582 | 6.234 | | 7.500 | | - | | 7.500 | | | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|--|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Block 2 Program Management Support | C/CPIF | SPA (SEAPORT):Washington, DC | 2.604 | 2.505 | Nov 2010 | 2.240 | Nov 2011 | - | | 2.240 | Continuing | Continuing | Continuing |
| Block 2 Program Management Support | WR | NSWC Crane, DD, PHD, NRL:Crane, IN; Dahlgren, VA; PHD CA; Washington DC; | 15.069 | - | | - | | - | | - | 0.000 | 15.069 | |
| Block 2 Program Management Support | WR | NSWC Dahlgren:Dahlgren, VA | - | 0.780 | Nov 2010 | 1.115 | Nov 2011 | - | | 1.115 | Continuing | Continuing | Continuing |
| Block 2 Program Management Support | WR | NSWC Crane:Crane, IN | - | 0.421 | Nov 2010 | 1.117 | Nov 2011 | - | | 1.117 | Continuing | Continuing | Continuing |
| Block 2 Program Management Support | WR | NRL:Washington, DC | - | 0.220 | Nov 2010 | 0.779 | Nov 2011 | - | | 0.779 | Continuing | Continuing | Continuing |
| Block 2 Program Management | WR | NSWC PHD:Port Hueneme, CA | - | 0.228 | Nov 2010 | - | | - | | - | 0.000 | 0.228 | |
| Block 2 Travel | WR | NAVSEA Program Office Travel:Washington, DC | 0.204 | 0.150 | Nov 2010 | 0.100 | Nov 2011 | - | | 0.100 | Continuing | Continuing | Continuing |

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604757N: <i>Ship Self Def (Engage: Soft Kill/ EW)</i> | PROJECT 3227: <i>SEWIP Block 2</i> |
|---|---|--|

| Fiscal Year | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | 2014 | | | | 2015 | | | | 2016 | | | |
|---|--|---|---|---|-------------------|---|---|---|-------------------|---|---|---|-------------------------|---|---|---|------------------|---|---|---|------|---|---|---|------|---|---|---|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Acquisition Milestones | Block 2 MS B DR ▲ | | | | | | | | | | | | Block 2 MS C/ LRIP DR ▲ | | | | Block 2 FRP DR ▲ | | | | | | | | | | | |
| Block 2 Development | New Receiver/Antenna/Interface Development | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Block 3 Development | | | | | Electronic Attack | | | | | | | | | | | | | | | | | | | | | | | |
| Block 2 Test and Evaluation Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Development Test | | | | | Block 2 FQT/OA | | | | Block 2 Gov't LBT | | | | ▲ Block 2 TECHEVAL | | | | | | | | | | | | | | | |
| Operational Test | | | | | | | | | | | | | | | | | ▲ Block 2 IOT&E | | | | | | | | | | | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604757N: <i>Ship Self Def (Engage: Soft Kill/ EW)</i> | PROJECT 3227: <i>SEWIP Block 2</i> |
|---|---|--|

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| <i>Proj 3227</i> | | | | |
| Block 2 MS B DR | 2 | 2010 | 3 | 2010 |
| Block 2 New Receiver/Antenna/Interface Development | 1 | 2010 | 2 | 2014 |
| Block 3 Electronic Attack | 1 | 2011 | 4 | 2011 |
| Block 2 FQT/OA | 2 | 2011 | 2 | 2012 |
| Block 2 MS C/LRIP DR | 4 | 2012 | 4 | 2012 |
| Block 2 Gov't LBT | 2 | 2012 | 1 | 2013 |
| Block 2 TECHEVAL | 4 | 2013 | 4 | 2013 |
| Block 2 IOT&E | 1 | 2014 | 2 | 2014 |
| Block 2 FRP DR | 3 | 2014 | 3 | 2014 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604757N: <i>Ship Self Def (Engage: Soft Kill/ EW)</i> | PROJECT 3316: <i>Advanced Offboard EW</i> |
|---|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|-----------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 3316: <i>Advanced Offboard EW</i> | - | - | 22.967 | - | 22.967 | 23.544 | 32.057 | 71.025 | 72.314 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

Note

This project is a new start in FY 2012

A. Mission Description and Budget Item Justification

3316 - The objective of Advanced Offboard EW is to develop and evaluate long duration off-board decoys to counter identified EW gaps (additional details classified) in response to an urgent operational need from the fleet that has been approved by the CNO for execution. Currently no counter to the threat exists. The program consists of two efforts, a rapid response effort to provide an initial, limited interim, expendable decoy capability to the fleet by 2014 and a full scale development effort culminating in the delivery of fully supported, full capability system. The rapid response effort (FY12-FY13) consists of the evaluation of DLF-3 inflatable decoys. The full scale development effort (commencing in FY12) concerns the development and evaluation of Ship-launched Persistent Integrated Countermeasures for EW (SPICE) decoy utilizing a family of payloads types fully able of countering the threat.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|--|---------|---------|---------|
| Title: Ship-launched Persistent Integrated Countermeasures for EW (SPICE) | - | - | 10.700 |
| Articles: | | | 0 |
| FY 2012 Plans: Commence development of long duration, EW off-board decoy and payloads. | | | |
| Title: DLF-3 | - | - | 12.267 |
| Articles: | | | 0 |
| FY 2012 Plans: Commence integration and evaluation of DLF-3. | | | |
| Accomplishments/Planned Programs Subtotals | - | - | 22.967 |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

The Advanced Offboard EW Program (SPICE and DLF-3) will be competitively contracted and developed, and builds on technologies and concepts currently in development by ONR.

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604757N: <i>Ship Self Def (Engage: Soft Kill/ EW)</i> | PROJECT 3316: <i>Advanced Offboard EW</i> |

E. Performance Metrics

Successfully complete Analysis of Alternatives for SPICE and successfully complete integration of DLF-3

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604757N: <i>Ship Self Def (Engage: Soft Kill/ EW)</i> | PROJECT 3316: <i>Advanced Offboard EW</i> |
|---|---|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Technology Studies | WR | Performing Activity:TBD | - | - | | 3.200 | Feb 2012 | - | | 3.200 | Continuing | Continuing | Continuing |
| System Design Specification | WR | Performing Activity:TBD | - | - | | 1.800 | Dec 2011 | - | | 1.800 | Continuing | Continuing | Continuing |
| Technology Development Task | WR | Performing Activity:TBD | - | - | | 3.000 | Apr 2012 | - | | 3.000 | Continuing | Continuing | Continuing |
| Primary Hardware Development | C/CPIF | TBD:Not Specified | - | - | | 10.267 | Apr 2012 | - | | 10.267 | 0.000 | 10.267 | |
| Subtotal | | | - | - | | 18.267 | | - | | 18.267 | | | |

Remarks

This is a new program beginning in FY12. Contract Type and Performing Activity for Prime Contractor are TBD.

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Government Engineering Support | WR | NSWC/Crane:Crane, IN | - | - | | 0.200 | Nov 2011 | - | | 0.200 | Continuing | Continuing | Continuing |
| Government Engineering Support | WR | NRL:Washington, DC | - | - | | 0.500 | Nov 2011 | - | | 0.500 | Continuing | Continuing | Continuing |
| Government Engineering Support | WR | NSWC Dahlgren:Dahlgren, VA | - | - | | 0.500 | Nov 2011 | - | | 0.500 | Continuing | Continuing | Continuing |
| Development Support | WR | NRL:Washington, DC | - | - | | 1.800 | Nov 2011 | - | | 1.800 | 0.000 | 1.800 | |
| Subtotal | | | - | - | | 3.000 | | - | | 3.000 | | | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Test Planning | WR | NRL:Washington, DC | - | - | | 0.400 | Nov 2011 | - | | 0.400 | Continuing | Continuing | Continuing |
| Test and Evaluation Plan | WR | NSWC/ Dahlgren:Dahlgren, VA | - | - | | 0.100 | Feb 2012 | - | | 0.100 | Continuing | Continuing | Continuing |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604757N: *Ship Self Def (Engage: Soft Kill/ EW)*

PROJECT

3316: *Advanced Offboard EW*

| Fiscal Year | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | 2014 | | | | 2015 | | | | 2016 | | | | | | | | | | |
|---|------|---|---|---|------|---|---|---|---------------------------------------|---|---|---|--------------------------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|--|--|--|--|--|--|--|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | | | | | | | |
| Acquisition Milestones (TBD) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Development | | | | | | | | | DLF-3 Integration | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | SPICE Analysis of Alternatives | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | SPICE System Development | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | SPICE Integration | | | | | | | | | | | | | | | | | | | | | | |
| Test & Evaluation Development Test | | | | | | | | | | | | | DLF-3 Test | | | | | | | | | | | | | | | | | | | | | | |

DLF-3 is manufacturer nomenclature

SPICE: Ship-launched Persistent Integrated Countermeasures for EW

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604757N: <i>Ship Self Def (Engage: Soft Kill/ EW)</i> | PROJECT 3316: <i>Advanced Offboard EW</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--------------------------------|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| <i>Proj 3316</i> | | | | |
| DLF-3 Integration | 1 | 2012 | 4 | 2012 |
| SPICE Analysis of Alternatives | 1 | 2012 | 3 | 2013 |
| SPICE System Development | 1 | 2012 | 4 | 2016 |
| DLF-3 Test | 1 | 2013 | 3 | 2013 |
| SPICE Integration | 1 | 2014 | 4 | 2016 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604757N: <i>Ship Self Def (Engage: Soft Kill/ EW)</i> | PROJECT 3321: <i>SEWIP Block 3</i> |
|---|---|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|----------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 3321: <i>SEWIP Block 3</i> | - | - | 95.276 | - | 95.276 | 103.974 | 124.244 | 44.352 | 45.180 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

SEWIP Block 3 will continue to expand the integrated shipboard combat system by providing a new integrated Electronic Attack (EA) transmitter, array, and associated EA techniques to enhance surface EW capability for legacy and new-construction platforms. EA capability enhancements are required in order to pace the anti-ship missile threat. SEWIP Block 3 will leverage the transition technology demonstrated by ONR's INTOP program. The program builds on the EW Support (ES) capability delivered by SEWIP Blocks 1 and 2.

SEWIP Block 3 also includes the modification, ruggedization, and evaluation of the Naval Research Lab (NRL) developed Transportable EW Module (TEWM) system. This program answers an urgent operational need for the Fleet to provide an initial, limited interim capability by 2014.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|--|---------|---------|-------------|
| Title: SEWIP Block 3 ADM design FY 2012 Plans: Non-recurring Hardware Design of the INTOP ADM | - | - | 14.225 0 |
| Title: SEWIP Block 3 ADM hardware & software FY 2012 Plans: Hardware and Software prototyping of the INTOP ADM, including Design, Code, and Unit Test | - | - | 12.780 0 |
| Title: SEWIP Block 3 ADM Integration and Test FY 2012 Plans: SEWIP Block 3 INTOP ADM Integration and Test | - | - | 13.225 0 |
| Title: SEWIP Block 3 Acquisition Management & Planning FY 2012 Plans: MS B preparation; including System Engineering, Technology Readiness Assessment (TRA), and acquisition documentation | - | - | 23.047 0 |
| Title: TEWM Development | - | - | 25.910 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604757N: <i>Ship Self Def (Engage: Soft Kill/ EW)</i> | PROJECT 3321: <i>SEWIP Block 3</i> |
|---|---|--|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| Articles: | | | 0 |
| FY 2012 Plans: Continue development of modifications to the TEWM system. | | | |
| Title: TEWM Test Planning | - | - | 0.480 |
| Articles: | | | 0 |
| FY 2012 Plans: Commencement of TEWM test planning and coordination | | | |
| Title: TEWM Test Assets | - | - | 4.250 |
| Articles: | | | 0 |
| FY 2012 Plans: TEWM Simulator and Radar test platform support. | | | |
| Title: TEWM Development & Management Support | - | - | 1.360 |
| Articles: | | | 0 |
| FY 2012 Plans: TEWM Development and Program Management Support. | | | |
| Accomplishments/Planned Programs Subtotals | - | - | 95.276 |

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> <u>Base</u> | <u>FY 2012</u> <u>OCO</u> | <u>FY 2012</u> <u>Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
|----------------------------|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| • 0204228N/2312: AN/SLQ-32 | 31.171 | 49.677 | 43.096 | 0.000 | 43.096 | 95.151 | 220.722 | 272.913 | 455.744 | Continuing | Continuing |

D. Acquisition Strategy

SEWIP will develop block upgrades to SLQ-32 based on integrating technology advances and adding functional capabilities in an incremental fashion. Each block and sub-block will be developed and contracted in an individual yet coordinated and overlapping fashion. Specifically, SEWIP Block 3 involves the transitioning and leveraging work performed under the INTOP program sponsored by ONR, which focused on designing/architecting an integrated EA, IO, and LOS Comms system for Naval Surface Platforms. SEWIP Block 3 also leverages work performed under the TEWM program that is sponsored by NRL that focuses on analysis technique development and active engagement analysis/modeling for Naval surface combatants

E. Performance Metrics

Successfully achieve Block 3 Milestone B.

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604757N: <i>Ship Self Def (Engage: Soft Kill/ EW)</i> | PROJECT 3321: <i>SEWIP Block 3</i> |
| Successfully achieve Block 3 MS C / LRIP DR. Successfully complete TEWM modifications Successfully complete TEWM integration and testing | | |

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604757N: <i>Ship Self Def (Engage: Soft Kill/ EW)</i> | PROJECT 3321: <i>SEWIP Block 3</i> |
|---|---|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|--|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Block 3 Technology Demonstration | C/CPIF | Northrop Grumman; Raytheon:Eagan, MN; Raytheon, CA | - | - | | 40.429 | Nov 2011 | - | | 40.429 | Continuing | Continuing | Continuing |
| TEWM Primary Hardware Development | TBD | TBD:TBD | - | - | | 25.910 | Feb 2012 | - | | 25.910 | 0.000 | 25.910 | |
| Subtotal | | | - | - | | 66.339 | | - | | 66.339 | | | |

Remarks
TEWM is a new development effort beginning in FY12. Contract Type and Performing Activity for Prime Contractor is TBD.

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|--|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Block 3 Integrated Logistics Support | WR | NSWC Dahlgren:Dahlgren, VA | - | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Block 3 Integrated Logistics Support | WR | NSWC Crane:Crane, IN | - | - | | 2.188 | Nov 2011 | - | | 2.188 | Continuing | Continuing | Continuing |
| Block 3 Integrated Logistics Support | WR | NRL:Washington, DC | - | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Block 3 Integrated Logistics Support | FFRDC | APL:Laurel, MD | - | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Block 3 Government Engineering Support | WR | NSWC Dahlgren:Dahlgren, VA | - | - | | 2.523 | Nov 2011 | - | | 2.523 | Continuing | Continuing | Continuing |
| Block 3 Government Engineering Support | WR | NSWC Crane:Crane, IN | - | - | | 0.922 | Nov 2011 | - | | 0.922 | Continuing | Continuing | Continuing |
| Block 3 Government Engineering Support | WR | NRL:Washington, DC | - | - | | 4.605 | Nov 2011 | - | | 4.605 | Continuing | Continuing | Continuing |
| Block 3 Government Engineering Support | WR | NSWC PHD:Port Hueneme, CA | - | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Block 3 Government Engineering Support | FFRDC | APL:Laurel, MD | - | - | | 2.608 | Nov 2011 | - | | 2.608 | Continuing | Continuing | Continuing |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604757N: <i>Ship Self Def (Engage: Soft Kill/ EW)</i> | PROJECT 3321: <i>SEWIP Block 3</i> |
|---|---|--|

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| TEWM Development Support | WR | NRL:Washington, DC | - | - | | 1.260 | Nov 2011 | - | | 1.260 | 0.000 | 1.260 | |
| Subtotal | | | - | - | | 14.106 | | - | | 14.106 | | | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Block 3 Test Planning/T&E Events | WR | NSWC Dahlgren:Dahlgren, VA | - | - | | 1.433 | Nov 2011 | - | | 1.433 | Continuing | Continuing | Continuing |
| Block 3 Test Planning/T&E Events | WR | NSWC Crane:Crane, IN | - | - | | 0.874 | Nov 2011 | - | | 0.874 | Continuing | Continuing | Continuing |
| Block 3 Test Planning/T&E Events | WR | NRL:Washington, DC | - | - | | 2.099 | Nov 2011 | - | | 2.099 | Continuing | Continuing | Continuing |
| TEWM Test Planning | WR | NRL:Washington, DC | - | - | | 0.480 | Nov 2011 | - | | 0.480 | 0.000 | 0.480 | |
| TEWM Test Assets | TBD | TBD:TBD | - | - | | 4.250 | Feb 2012 | - | | 4.250 | 0.000 | 4.250 | |
| Subtotal | | | - | - | | 9.136 | | - | | 9.136 | | | |

Remarks
TEWM is a new development effort beginning in FY12. Contract Type and Performing Activity for test assets are TBD.

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Block 3 Program Management Support | C/CPIF | SPA (SEAPORT):Washington, DC | - | - | | 2.112 | Nov 2011 | - | | 2.112 | Continuing | Continuing | Continuing |
| Block 3 Program Management Support | WR | NSWC Dahlgren:Dahlgren, VA | - | - | | 1.120 | Nov 2011 | - | | 1.120 | Continuing | Continuing | Continuing |
| Block 3 Program Management Support | WR | NSWC Crane:Crane, IN | - | - | | 1.128 | Nov 2011 | - | | 1.128 | Continuing | Continuing | Continuing |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY: 1319: Research, Development, Test & Evaluation, Navy BA 5: Development & Demonstration (SDD) R-1 ITEM NOMENCLATURE: PE 0604757N: Ship Self Def (Engage: Soft Kill/EW) PROJECT: 3321: SEWIP Block 3

Table with columns: Management Services (\$ in Millions), Contract Method & Type, Performing Activity & Location, Total Prior Years Cost, FY 2011 (Cost, Award Date), FY 2012 Base (Cost, Award Date), FY 2012 OCO (Cost, Award Date), FY 2012 Total (Cost), Cost To Complete, Total Cost, Target Value of Contract. Includes rows for Block 3 Program Management Support, Block 3 Program Management, Block 3 Travel, TEWM Program Management Support, and Project Cost Totals.

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: Research, Development, Test & Evaluation, Navy
BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

PE 0604757N: Ship Self Def (Engage: Soft Kill/
EW)

PROJECT

3321: SEWIP Block 3

| Fiscal Year | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | 2014 | | | | 2015 | | | | 2016 | | | | | | | |
|-------------------------------|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|--|--|--|--|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | | | | |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test and Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Development Test | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operational Test | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

* Integrated testing includes Gov't Land Based Testing and FQT events.

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604757N: <i>Ship Self Def (Engage: Soft Kill/ EW)</i> | PROJECT 3321: <i>SEWIP Block 3</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 3321 | | | | |
| Block 3 Technology Demonstration | 1 | 2012 | 4 | 2012 |
| Block 3 Engineering and Manufacturing Development (E&MD) | 1 | 2013 | 2 | 2016 |
| TEWM Modification | 1 | 2012 | 1 | 2014 |
| Block 3 MS B DR | 1 | 2013 | 1 | 2013 |
| TEWM Modification Test | 3 | 2013 | 1 | 2014 |
| TEWM Integration Test | 4 | 2013 | 4 | 2014 |
| Block 3 Integrated Testing | 3 | 2015 | 4 | 2016 |
| Block 3 Operational Assessment | 4 | 2015 | 4 | 2015 |
| Block 3 MS C/LRIP DR | 1 | 2016 | 1 | 2016 |

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | | | | R-1 ITEM NOMENCLATURE | | | | | | | |
|---|---------|---------|--------------|--|---------------|---------|---------|---------|---------|------------------|------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> | | | | PE 0604761N: <i>Intelligence Engineering</i> | | | | | | | |
| BA 5: <i>Development & Demonstration (SDD)</i> | | | | | | | | | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| Total Program Element | 15.258 | 6.820 | 2.217 | - | 2.217 | 2.139 | 2.197 | 2.257 | 6.232 | Continuing | Continuing |
| 3103: <i>Intelligence Engineering</i> | 15.258 | 6.820 | 2.217 | - | 2.217 | 2.139 | 2.197 | 2.257 | 6.232 | Continuing | Continuing |

A. Mission Description and Budget Item Justification

This PE encompasses the Navy Foreign Materiel Program (FMP) and the Advanced Maritime Analysis Center (AMAC). The funding for the Maritime Domain Awareness (MDA) program ended in FY09. The FMP provides high leverage cost benefit through acquisition of foreign manufactured equipment with military application and potential military application and the subsequent exploitation of that materiel for potential vulnerabilities and countermeasures. Advanced Maritime Analysis Center (AMAC) fosters continual improvements in the quality of naval intelligence analysis by identifying and developing analytic best practices with respect to methods and tools, facilitating their implementation throughout ONI's analytic workforce, and introducing them to other naval intelligence entities

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 14.378 | 6.820 | 7.262 | - | 7.262 |
| Current President's Budget | 15.258 | 6.820 | 2.217 | - | 2.217 |
| Total Adjustments | 0.880 | - | -5.045 | - | -5.045 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | 0.900 | - | | | |
| • SBIR/STTR Transfer | - | - | | | |
| • Program Adjustments | - | - | -5.042 | - | -5.042 |
| • Section 219 Reprogramming | -0.020 | - | - | - | - |
| • Rate/Misc Adjustments | - | - | -0.003 | - | -0.003 |

Change Summary Explanation

FY10 \$1.6M increase due to BTR processed for MDA. During POM-12, Resource Sponsor (N2N6) vertically cut R&D funding for the Foreign Materiel Program FY12-15 (\$3.8M per yr). Also during POM-12, the AMAC program took a 5% reduction and a \$1M reduction (\$1.2m) for the Efficiency Initiative across the FYDP. Schedule: Not applicable.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604761N: <i>Intelligence Engineering</i> | PROJECT 3103: <i>Intelligence Engineering</i> |
|---|--|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---------------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 3103: <i>Intelligence Engineering</i> | 15.258 | 6.820 | 2.217 | - | 2.217 | 2.139 | 2.197 | 2.257 | 6.232 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

Note

Per Resource Sponsor (N2N6) decision, the FMP Program's RDTEN funding was vertically cut beginning FY12 for higher priority programs.

A. Mission Description and Budget Item Justification

The FMP provides high leverage cost benefit through acquisition of foreign manufactured equipment with military application and potential military application and the subsequent exploitation of that materiel for potential vulnerabilities and countermeasures. The AMAC/ONI Innovation Program, executes funding to research, develop, test, evaluate and integrate cutting edge technology and tradecraft into Naval Intelligence collection and analytic processes and vigorously leverages National Intelligence capabilities to satisfy requirements across the Navy and to advance Navy Information Dominance.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|--|---------|---------|---------|
| Title: Intelligence Engineering | 15.258 | 6.820 | 2.217 |
| Articles: | 0 | 0 | 0 |
| FY 2010 Accomplishments: Foreign Materiel Acquisition Innovative Technology Testing & Integration (AMAC) | | | |
| FY 2011 Plans: Foreign Materiel Exploitation Foreign Materiel Acquisition Technology Integration and Transition (AMAC) | | | |
| FY 2012 Plans: Technology Integration and Transition (AMAC) | | | |
| Accomplishments/Planned Programs Subtotals | 15.258 | 6.820 | 2.217 |

UNCLASSIFIED

| | | |
|---|--|---|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604761N: <i>Intelligence Engineering</i> | PROJECT 3103: <i>Intelligence Engineering</i> |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

The FMP program combines operational, intelligence and RDT&E requirements into a prioritized list used to identify which acquisition opportunities will obtain priority for funding. The limited N2/N6 FMP funding line is then used to leverage additional funding from OSD in order to fulfill full costs of acquisitions. After acquisition approval, the FMP utilizes a Navy contracting office to write and execute the contract.

The AMAC Program collaborates with ONI stakeholders/external agencies to identify cutting edge technology funding priorities. The program employs ONI competitive contracts and existing Department of Defense contract vehicles to the maximum extent possible to achieve stated goals and execute funding.

E. Performance Metrics

Program direction is dependent upon guidance provided by 6 warfare area planning groups.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604761N: <i>Intelligence Engineering</i> | PROJECT 3103: <i>Intelligence Engineering</i> |
|---|--|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Intellipubia | MIPR | DIA:Bolling AFB | 0.148 | - | | - | | - | | - | 0.000 | 0.148 | |
| Agile Aperture Antenna | C/FFP | NAVAIR:Pax River, MD | - | 1.400 | Oct 2010 | - | | - | | - | 1.400 | 2.800 | |
| ELINT Tagging | C/FFP | NRL:Washington, DC | - | 0.100 | Oct 2010 | 0.100 | Oct 2011 | - | | 0.100 | 0.400 | 0.600 | |
| Analyst Technology Enhancement | C/FFP | NRL:Washington, DC | - | 0.991 | Feb 2011 | 1.540 | Feb 2012 | - | | 1.540 | 5.521 | 8.052 | |
| Analyst Tool Enhancement | C/FFP | NRL:Washington, DC | - | - | | 0.152 | Jan 2012 | - | | 0.152 | 3.944 | 4.096 | |
| Project Gelbray | SS/FFP | NRL:Washington, DC | 1.300 | 1.268 | Oct 2010 | - | | - | | - | 0.000 | 2.568 | |
| Cluster Fizzle | MIPR | FORMASO:Not Specified | - | 0.763 | Jan 2011 | - | | - | | - | 0.000 | 0.763 | |
| Cluster Nitrate | MIPR | NSMA:Washington,DC | - | 0.100 | Jan 2011 | - | | - | | - | 0.000 | 0.100 | |
| Platform Project A | MIPR | NSMA:Washington,DC | - | 0.100 | Jan 2011 | - | | - | | - | 0.000 | 0.100 | |
| FTCPG Project A | SS/FFP | NSWC:Panama City | - | 0.500 | Jan 2011 | - | | - | | - | 0.000 | 0.500 | |
| FTCPG Project B | SS/FFP | NSWC:Panama City | - | 1.000 | Jan 2011 | - | | - | | - | 0.000 | 1.000 | |
| C4ISR Project A | MIPR | FORMASO:Not Specified | - | 0.100 | Mar 2011 | - | | - | | - | 0.000 | 0.100 | |
| C4ISR Project B | MIPR | FORMASO:Not Specified | - | 0.100 | Mar 2011 | - | | - | | - | 0.000 | 0.100 | |
| Subtotal | | | 1.448 | 6.422 | | 1.792 | | - | | 1.792 | 11.265 | 20.927 | |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| System/Accreditation | C/FFP | Radius Orange:Arlington, VA | - | 0.164 | Oct 2010 | 0.170 | Oct 2011 | - | | 0.170 | 0.688 | 1.022 | |
| Security Engineer Support | C/FFP | Radius Orange:Arlington, VA | - | 0.194 | Mar 2011 | 0.210 | Mar 2012 | - | | 0.210 | 0.838 | 1.242 | |
| Subtotal | | | - | 0.358 | | 0.380 | | - | | 0.380 | 1.526 | 2.264 | |

UNCLASSIFIED

UNCLASSIFIED

| | | | | | | | |
|---|--|--|----------------------------|--|---|--|--|
| Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy | | | DATE: February 2011 | | | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | R-1 ITEM NOMENCLATURE PE 0604761N: <i>Intelligence Engineering</i> | | | PROJECT 3103: <i>Intelligence Engineering</i> | | |

| | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|------------------------------------|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Proj 3103 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Intellipubia Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Agile Aperture Antenna | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ELINT Tagging | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Analyst Technology Enhancement | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Analyst Tool Enhancement | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| System/Accreditation Support | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Security Engineer Support | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Analyst Tools Comparative Analysis | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Project Gelbray | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cluster Fizzle | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cluster Nitrate | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Platform Project A | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FTCPG Project A | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FTCPG Project B | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| C4ISR Project A | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| C4ISR Project B | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

UNCLASSIFIED

| | | |
|---|--|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604761N: <i>Intelligence Engineering</i> | PROJECT 3103: <i>Intelligence Engineering</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|------------------------------------|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 3103 | | | | |
| Intellipubia Development | 3 | 2010 | 2 | 2011 |
| Agile Aperture Antenna | 1 | 2011 | 4 | 2011 |
| ELINT Tagging | 1 | 2011 | 4 | 2016 |
| Analyst Technology Enhancement | 2 | 2011 | 4 | 2014 |
| Analyst Tool Enhancement | 2 | 2011 | 4 | 2014 |
| System/Accreditation Support | 1 | 2011 | 4 | 2016 |
| Security Engineer Support | 3 | 2011 | 4 | 2016 |
| Analyst Tools Comparative Analysis | 1 | 2011 | 4 | 2016 |
| Project Gelbray | 1 | 2011 | 4 | 2012 |
| Cluster Fizzle | 1 | 2011 | 4 | 2012 |
| Cluster Nitrate | 1 | 2011 | 4 | 2012 |
| Platform Project A | 1 | 2011 | 4 | 2012 |
| FTCPG Project A | 1 | 2011 | 4 | 2012 |
| FTCPG Project B | 1 | 2011 | 4 | 2012 |
| C4ISR Project A | 1 | 2011 | 4 | 2012 |
| C4ISR Project B | 1 | 2011 | 4 | 2012 |

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | | | R-1 ITEM NOMENCLATURE | | | | | | | | |
|---|----------------|----------------|---|--------------------|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | PE 0604771N: <i>Medical Development</i> | | | | | | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| Total Program Element | 54.932 | 12.637 | 12.984 | 1.950 | 14.934 | 12.902 | 9.768 | 10.036 | 10.582 | Continuing | Continuing |
| 0933: <i>Medical/Dental Equipment Dev</i> | 8.087 | 12.637 | 12.984 | 1.950 | 14.934 | 12.902 | 9.768 | 10.036 | 10.582 | Continuing | Continuing |
| 9999: <i>Congressional Adds</i> | 46.845 | - | - | - | - | - | - | - | - | 0.000 | 46.845 |

A. Mission Description and Budget Item Justification

develop biomedical equipment and related techniques to reduce morbidity; to enhance the logistic feasibility of modern medical care for combat casualties; to sustain casualties for evacuation to fixed medical facilities for definitive care; and to ensure that personnel are medically qualified for military duty. Each work unit undertaken in this project has a military requirement. Efforts are justified based upon military payoff and cost benefit. There is a strong potential for dual use, technology transfer, and biotechnology firms/industry participation in the projects.

B. Program Change Summary (\$ in Millions)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 56.692 | 12.337 | 14.054 | - | 14.054 |
| Current President's Budget | 54.932 | 12.637 | 12.984 | 1.950 | 14.934 |
| Total Adjustments | -1.760 | 0.300 | -1.070 | 1.950 | 0.880 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | - | - | | | |
| • SBIR/STTR Transfer | -1.758 | - | | | |
| • Program Adjustments | - | 0.300 | -0.475 | 1.950 | 1.475 |
| • Rate/Misc Adjustments | - | - | -0.595 | - | -0.595 |
| • Congressional General Reductions Adjustments | -0.002 | - | - | - | - |

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 9999: *Congressional Adds*

Congressional Add: *Biocidal Wound Dressings*

Congressional Add: *Deployment Health and Chronic Disease Surveillance*

Congressional Add: *Integrated Psycho-Social Health Care Demonstration Program*

| | FY 2010 | FY 2011 |
|--|----------------|----------------|
| | 1.195 | - |
| | 0.797 | - |
| | 0.996 | - |

UNCLASSIFIED

| | |
|---|----------------------------|
| Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy | DATE: February 2011 |
|---|----------------------------|

| | |
|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604771N: <i>Medical Development</i> |
|---|---|

| Congressional Add Details (\$ in Millions, and Includes General Reductions) | FY 2010 | FY 2011 |
|---|----------------|----------------|
| Congressional Add: <i>Management of Lung Injury by Micronutrients</i> | 1.195 | - |
| Congressional Add: <i>Multivalent Dengue Vaccine Program</i> | 1.275 | - |
| Congressional Add: <i>National Functional Geonomics Center Colloborating Site</i> | 3.187 | - |
| Congressional Add: <i>Simplified Orthopedic Surgery</i> | 4.222 | - |
| Congressional Add: <i>Wound Care Research (transferred from Defense Health Program)</i> | 12.946 | - |
| Congressional Add: <i>Military Dental Research</i> | 5.975 | - |
| Congressional Add: <i>Advanced Molecular Medicine Initiative</i> | 0.797 | - |
| Congressional Add: <i>On-Demand Custom Body Implants/Prosthesis For Inju</i> | 1.593 | - |
| Congressional Add: <i>Hampton University Cancer Treatment Initiative</i> | 3.983 | - |
| Congressional Add: <i>Mobile Oxygen, Venilation & External Suction (Mo</i> | 2.709 | - |
| Congressional Add: <i>US Navy Pandamic Influenza Vaccine Program</i> | 1.593 | - |
| Congressional Add: <i>Composite Tissue Transplanation for Combat Wounded</i> | 1.992 | - |
| Congressional Add: <i>US Navy Cancer Vaccine Program</i> | 2.390 | - |
| Congressional Add Subtotals for Project: 9999 | 46.845 | - |
| Congressional Add Totals for all Projects | 46.845 | - |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604771N: <i>Medical Development</i> | PROJECT 0933: <i>Medical/Dental Equipment Dev</i> |
|---|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 0933: <i>Medical/Dental Equipment Dev</i> | 8.087 | 12.637 | 12.984 | 1.950 | 14.934 | 12.902 | 9.768 | 10.036 | 10.582 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

To develop biomedical equipment and related techniques to reduce morbidity; to enhance the logistic feasibility of modern medical care for combat casualties; to sustain casualties for evacuation to fixed medical facilities for definitive care; and to ensure that personnel are medically qualified for military duty. Each work unit undertaken in this project has a military requirement. Efforts are justified based upon military payoff and cost benefit. There is a strong potential for dual use, technology transfer, and biotechnology firms/industry participation in the projects.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|---------|---------|--------------|-------------|---------------|
| Title: Medical/Dental Equipment Dev | 8.087 | 12.337 | 12.984 | 1.950 | 14.934 |
| Articles: | 0 | 0 | 0 | 0 | 0 |
| FY 2010 Accomplishments: | | | | | |
| - System for Objective Decision-Making on the Timing of Wound Closure - Continuing development of wound evaluation methods that integrate current standards with genetic expression profiles unique to wound healing. Identified commercial partners for diagnostic kit development. Focus is on development of test kit available for use in Military Treatment Facilities. Discussions with potential manufacturer of "dipstick" assay for a rapid, disposable, and diagnostic device. | | | | | |
| - Hyperspectral Imaging of Tissue Perfusion and Oxygenation in Extremity Wounds - Initiate development of an integrated spectroscopic imaging system to provide accurate assessment of tissue perfusion and oxygenation. The system will provide improved diagnostic measures of wound healing. | | | | | |
| - Heterotopic Ossification (HO) Incidence - Continued research on incidence and predisposing factors (e.g., combat polytrauma, Traumatic Brain Injury) of HO in patients based on a molecular profile, clinical indicators, and patient history. Continued investigation of the effects of psychoactive drugs on progenitor cell differentiation toward osteoblasts. | | | | | |
| - Treatment Response Modeling for Crew Injuries Resulting from Weapons Attack - Continued refinement of model for medical chain requirements for evacuation patient outcomes. Continued determination of the probabilistic representation of a mortality function, to be used with other stochastic models. Coordinated with software wrapper developer to ensure interoperability. | | | | | |

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604771N: <i>Medical Development</i> | PROJECT 0933: <i>Medical/Dental Equipment Dev</i> |

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|---------|---------|--------------|-------------|---------------|
| <ul style="list-style-type: none"> - USMC Tourniquet Evaluation and Downselect - Model selection conducted in collaboration with Defense Medical Standardization Board, Army, and Air Force representatives. Joint effort with the Marine Corps to evaluate tourniquet performance in arresting bleeding and limb salvage in field injury scenarios. - Detection of Intracranial Hematoma - Refined field performance characteristics of a portable near infrared based mobile imaging device (Infrascanner) to detect brain hematoma at the site of injury. Device will be deployed in a joint effort with the Marine Corps. - Clinical Evaluation of a Vaxfectin TM - Formulated Tetravalent Dengue DNA Vaccine (VTDDV) - Progress on clinical investigations trials on four serotypes. - Establishing a 3D Craniofacial Image Protocol and Pre-Injury Database - Completed development of the database structure of 3D soft tissue and hard tissue pre-traumatic images of pre-deployed personnel. Finalizing efforts in management, transfer, and diagnostic use of images. Focused on data acquisition and transfer at Marine Corps clinics. - Monitoring, Oxygen Ventilation and External Suction (MOVES) System - Completed Phase I reconfiguration of MOVES to reduce weight and cost for subsequent production runs. Incorporate joint service requirements. Evaluating redesign features based on lessons-learned from MOVES field evaluations. Initiated TEMP development in collaboration with USMC. Initiated discussions on commercialization efforts. - Mobile Oxygen Ventilation and External Suction (MOVES) Anesthesia - Continued development of MOVES anesthesia module. This device is a pre-planned product improvement for FRSS deployment for MTFs, Medicine Clinics, Corpsman, and Navy or USMC Special Operations. - Intranasal Carbon Dioxide for Headache and Trigeminal Muscle Pain - Developing final protocol procedure for FDA Phase III clinical trials. Determined study sites and anticipated patient throughput. Initiate efforts to provide clinical guidance on abortive migraine therapy with minimal side effects and high efficacy for use on deployment and in Military Treatment Facilities. - Vasoactivity-Attenuated (VA) HBOC FY10 Initiative Toxicology Studies - Initiated large animal studies evaluating safety and effectiveness of VA Hemoglobin-based oxygen carriers for treatment, for severe hemorrhagic shock. - Spray-Dried Pooled Plasma - Initiated efforts to establish a second GMP capability. Developed preliminary FDA regulatory compliance plan. in a joint effort with the Office of Naval Research, USMC, and US Army. - Hemostatic Agent Evaluation in a Severe Vascular Hemorrhage or Liver Injury Model - Initiated testing a nano-particle based hemostatic dressing capable of controlling and arresting severe bleeding to decrease combat casualties. Initial results indicate that the liver-crush model in large animals may be inadequate to fully evaluate | | | | | |

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604771N: <i>Medical Development</i> | PROJECT 0933: <i>Medical/Dental Equipment Dev</i> |

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|---------|---------|--------------|-------------|---------------|
| <p>the effects of the dressing on severe internal organ injury. Effort is performed in conjunction with a product developed by the Office of Naval Research.</p> <ul style="list-style-type: none"> - Perfluorocarbons for Non-Recompressive Decompression - Continued tests of intravenous perfluorocarbons for adjunctive decompression sickness and arterial gas embolism therapy. The effort focused on large animal trials targeting FDA approval. The effort has continued on schedule despite delays in small animal model partner performance. This is a joint effort with ONR and NAVSEA. - Mitigation of Traumatic Brain Injury with Novel Pad Inserts - Initiated effort to manufacture improved protection provided by helmets through a new nanomaterial helmet insert that will absorb shock, impact, and vibration. Preliminary data are being assembled to develop major test plan. Initial prototype of insert set will be produced for human factors evaluation. - Phase I Clinical Trials for FDA approval of an Infusible Hemostatic Agent - Completed evaluation of one of two candidate agents in preclinical trials. Preparing plans for Phase I Safety Trials of the infusible hemostatic agent selected from pre-clinical tests. The agent is designed for applications to non-compressible injuries. Transition to US Army Medical Materials Development Agency for Phase II. - Attenuated Sporozoite Malaria Vaccine for Military Personnel - Augmented ongoing clinical trial effort to test, for safety and efficacy, a militarily relevant malaria vaccine regimen utilizing a promising novel vaccine candidate. Joint Development Projects with MARCORSSYSCOM Medical Acquisition - Initiated Joint Development Testing and Evaluation program for medical products and equipment. <p>FY 2011 Plans:</p> <ul style="list-style-type: none"> - Wound Management Program - Integrate efforts in wound closure, Hyperspectral Imaging, Heterotopic Ossification, and stem cell applications for wound repair. The system will provide improved diagnostic measures of wound healing. - Monitoring, Oxygen Ventilation and External Suction (MOVES) System - Initiate field testing and airworthiness testing for device. Continue configuration management of MOVES anesthesia module. Joint effort developed system to be procured by the Marine Corps. - Mobile Oxygen Ventilation and External Suction (MOVES) Anesthesia - Continue development of MOVES anesthesia module. This device is a pre-planned product improvement for FRSS deployment for MTFs, Medicine Clinics, Corpsman, and Navy or USMC Special Operations. - Intranasal Carbon Dioxide for Headache and Trigeminal Muscle Pain - Continue efforts to provide an abortive migraine therapy with minimal side effects and high efficacy for use on deployment and in Military Treatment Facilities. | | | | | |

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604771N: <i>Medical Development</i> | PROJECT 0933: <i>Medical/Dental Equipment Dev</i> |

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| <p>- Mitigation of Traumatic Brain Injury with Novel Pad Inserts - Continue effort to improve protection provided by helmets through a new helmet insert that will absorb shock, impact, and vibration.</p> <p>- Attenuated Sporozoite Malaria Vaccine for Military Personnel - Complete augmented efforts with the ongoing clinical trial effort to test, for safety and efficacy, a militarily relevant malaria vaccine regimen utilizing a promising novel vaccine candidate.</p> <p>- Joint Development Projects with MARCORSYSCOM Medical Acquisition - Continue Joint Development Testing and Evaluation program for medical products and equipment. Finalize development for USMC Procurement.</p> <p>- Transition Projects from Force Health Protection Future Capability - Initiate Development, Testing, and Evaluation program for transition products from the Office of Naval Research 6.3 Advanced Development program. Focus will be on transition of novel hemostatic agents (e.g. infusible hemostatics and field/first responder devices).</p> <p>- USMC Participation in the National Institute of mental Health (NIMH) Suicide Study - Provide annual report on risks and protective factors associated with increased suicides among Marines, while supporting the development of evidence-based prevention, assessment, and treatment services. Assessment and reporting will be in accordance with MOU developed with Department of the Army.</p> <p><i>FY 2012 Base Plans:</i></p> <p>- Mobile Oxygen Ventilation and External Suction (MOVES) Anesthesia - Complete development of MOVES anesthesia module. This device is a pre-planned product improvement for FRSS deployment for MTFs, Medicine Clinics, Corpsman, and Navy or USMC Special Operations. Joint effort to result in Marine Corps procurement.</p> <p>- Attenuated Sporozoite Malaria Vaccine for Military Personnel - Complete augmented efforts with the ongoing clinical trial effort to test, for safety and efficacy, a militarily relevant malaria vaccine regimen utilizing a promising novel vaccine candidate.</p> <p>- Wound Management Program - Integrate efforts in wound closure, Hyperspectral Imaging, Heterotopic Ossification, and stem cell applications for wound repair. The system will provide improved diagnostic measures of wound healing.</p> <p>- Joint Development Projects with MARCORSYSCOM Medical Acquisition - Initiate Joint Development Testing and Evaluation program for medical products and equipment. Finalize development for USMC Procurement.</p> <p>- Transition Projects from Force Health Protection Future Capability - Initiate Development, Testing, and Evaluation program for transition products from the Office of Naval Research 6.3 Advanced Development</p> | | | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604771N: <i>Medical Development</i> | PROJECT 0933: <i>Medical/Dental Equipment Dev</i> |
|---|---|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|---------|------------|--------------|-------------|---------------|
| <p>program. Focus will be on transition of novel hemostatic agents (e.g. infusible hemostatics and field/first responder devices).</p> <p>FY 2012 OCO Plans:</p> <ul style="list-style-type: none"> - Determining and optimizing medical resource requirements for expeditionary medical units - An expeditionary medical modeling and simulation tool (the Theater Medical Logistics Planning Tool (TML+)) will be configured to project and optimize medical resource requirements. Resource projection capability will be developed for Tactical Combat Casualty Care and rhesus surgery. - Expeditionary Medical encounter Database (CTR EMED) - This project will capture expeditionary tactical and medical injury and illness data and map those data to long-term casualty clinical, rehabilitative and quality of life outcome data. This will have a long-term Force Health Protection benefit in the development of more effective body armor and protective gear. - Foreign Directed Energy System Exploitation - This project will examine the exploitation of foreign directed energy devices for bioeffects countermeasure development. This will provide enhanced methodology for Force Health Protection against foreign directed energy devices. | | | | | |
| <p>Title: Combined Maritime Acoustic Device and Optical (Laser) Field Test</p> <p align="right">Articles:</p> <p>FY 2011 Plans:</p> <ul style="list-style-type: none"> - Combined Maritime Acoustic Device and Optical (Laser) Field Test - Based on a 5th Fleet requirement, an evaluation of various commercial-off-the-shelf (COTS) and government-off-the-shelf (GOTS) Non-Lethal Weapons (NLW) technology is required to determine the effectiveness of a combined Acoustic and Laser device as a long-range NLW hailing and warning device. The future acquisition to deploy these types of systems in-theater will be determined by the Armed Services based on this evaluation. | - | 0.300 0 | - | - | - |
| Accomplishments/Planned Programs Subtotals | 8.087 | 12.637 | 12.984 | 1.950 | 14.934 |

C. Other Program Funding Summary (\$ in Millions)
N/A

D. Acquisition Strategy
The acquisition strategy for product lines and products in the Medical Development Program designed and implemented consistent with the particular product and with the nature and size of the investment.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy DATE: February 2011

| APPROPRIATION/BUDGET ACTIVITY | R-1 ITEM NOMENCLATURE | PROJECT |
|---|---|---|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | PE 0604771N: <i>Medical Development</i> | 0933: <i>Medical/Dental Equipment Dev</i> |

The Medical Development Program operates with a Memorandum of Understanding with the Marine Corps Systems Command (Family of Field Medical Equipment) for co-development of products for procurement by the USMC. The acquisition strategy for these products involved direct partnership with the acquisition and procurement professionals at Marine Corps Systems Command. The program's major Product Areas in the Medical Development Program are: 1) Equipment, 2) Pharmaceuticals/Biologics, and 3) Knowledge/Concepts. The primary Program Areas of Interest are in: 1) Expeditionary Medicine (Navy in Terrestrial, Maritime Surface, Submarine, & Aviation Operations), USMC in Expeditionary Operations. In these areas the focus is on Levels I and II in Clinical Care Medicine; and 2) Products developed for battlefield treatment of Combat Casualties & Combat Trauma, focusing on delivery of Levels III and IV of care.

For areas 1 and 2, there are two primary acquisition strategies. The first is to test and evaluate commercially-developed medical product candidates in managed trials for ultimate Food and Drug Administration (FDA) approval. Partnerships with commercial developers ensure that products of military interest are available for procurement across the DoD, Federal Government, and commercial market. During development, DoD end users are included in the process to the extent possible. The second strategy is to drive the development process with DoD program investments. This process involves developing in-house or industrial prototypes in government-managed programs to meet military and regulatory requirements for production and fielding.

Both strategies promote advanced preparation of procurement plans in line with the product availability. Major Medical Development programs falling in these categories are: MOVES and MOVES anesthesia module (Equipment), and Dengue Vaccine and Infusible Hemostatic-Phase I Clinical Trials (Pharmaceuticals/Biologics).

The Third Product Area (Knowledge/Concepts) is focused on the introduction of technologies, techniques, and procedures that alter medical practice and standards of care. These primarily require early involvement of the senior leadership of military medicine, in that the result of the program is modifications of concepts of operations, policy, and/or doctrine. These are often much smaller Medical Development Program examples include Navy/USMC Medical Planning Requirement Assessment and Crisis Action Planning Tool Transition.

Programs such as System for Objective Decision-Making on Timing of Wound Closure involve both material and knowledge solutions.

E. Performance Metrics

Maintaining Scheduled Milestones/Demonstration Events for individualized project/product roadmap. Ensuring dependencies across multiple efforts are primary metrics.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604771N: <i>Medical Development</i> | PROJECT 0933: <i>Medical/Dental Equipment Dev</i> |
|---|---|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|---|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Mobile Anesthesia Delivery Module (MADM) Beta Prototype Development | SS/FP | Thornhill Research, Inc. Toronto:Canada | 1.769 | - | | - | | - | | - | 0.000 | 1.769 | |
| MADM BP Animal Test | SS/FP | Thornhill Research, Inc. Toronto:Canada | 0.983 | - | | - | | - | | - | 0.000 | 0.983 | |
| MADM Human Protocol Development | SS/FP | Thornhill Research, Inc. Toronto:Canada | 0.983 | - | | - | | - | | - | 0.000 | 0.983 | |
| MADM | SS/FP | Thornhill Research, Inc. Toronto:Canada | 1.700 | 3.389 | Jun 2011 | - | | - | | - | 0.000 | 5.089 | |
| SLC Cube and Weight Reduction of MOVES | SS/FP | Thornhill Research, Inc. Toronto:Canada | 1.900 | - | | - | | - | | - | 0.000 | 1.900 | |
| Product Development | SS/FP | Various:Not Specified | 0.752 | 9.248 | Jun 2011 | 12.984 | Oct 2011 | - | | 12.984 | Continuing | Continuing | Continuing |
| Medical/Dental Equipment Development | SS/FP | Various:Not Specified | - | - | | - | | 1.950 | Jul 2012 | 1.950 | 0.000 | 1.950 | |
| Subtotal | | | 8.087 | 12.637 | | 12.984 | | 1.950 | | 14.934 | | | |

Remarks

1,2,3. MADM - Beta Prototype,BP Animal Test; Human Protocol Development:
 This is being executed as partial funding of a new contract between RDECOM Natick, MA and Thornhill Research, Inc. The total contract value is approximately \$4,100K with the project jointly funded by the Navy (\$1.769K) and the USMC for a POP from 01 APR 2010 through 31 MAY 2011. These figures are based on a best breakout of the contribution from Project 0933 for all contracted efforts exceeding \$1,000K. The first two proofs of concepts (under N00244-07-C-1531) and the breadboard (under W911QY-08-C-0116) are already in progress and on their way to completion. Current efforts are in the design of the Alpha which is under contract W911QY-08-C-0116 option year. Testing on MADM will begin on animals in March. Next two phases of MADM will be focused on developing the Beta prototype and testing it on animals (base year), followed by building 10 units, verification and validation, environmental, EMC, and vibration testing, and human testing. POP for base year is 12 months which extends to 24 if the option is exercised.

4,5,6. MADM; SLC-Cube and Weight Reduction of MOVES; Product Development:
 MADM is being executed as partial funding of a new contract between RDECOM Natick, MA and Thornhill Research, Inc. The total contract value is approximately \$4,100K with the project jointly funded by the Navy and the USMC for a POP from 01 APR 2010 through 31 MAY 2011. These figures are based on a best breakout of the contribution from Project 0933 for all contracted efforts exceeding \$1,000K. The first two proofs of concepts (under N00244-07-C-1531) and the breadboard (under W911QY-08-C-0116) are already in progress and on their way to completion. Current efforts are in the design of the Alpha which is under contract W911QY-08-C-0116 option year. It is anticipated that MARCORSYSCOM will assume funding of this effort in BY2 under the existing MOA.
 The SLC program incorporates redesign and reconfiguration efforts to enhance the USMC en route care device capability set. The core program effort is supplemented by a congressional add that augments final RDT&E efforts of MOVES and configuration and redesign of SLC.
 Product Development incorporates numerous small efforts within major product lines to address the Navy Surgeon General's priorities. These efforts include:

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604771N: <i>Medical Development</i> | PROJECT 0933: <i>Medical/Dental Equipment Dev</i> |
|---|---|---|

| Exhibit R-4, RDT&E Program Schedule Profile | | Date: June 2010 | | | | | | |
|---|----|---|-----|-----|-------|--|-------|-------|
| Appropriation/Budget Activity: BA5 | | Program Element Number and Name: 0604771N Medical Development | | | | Project Number and Name: 0933 Medical & Dental Equipment Development | | |
| Fiscal Year | PY | CY | BY1 | BY2 | BY2+1 | BY2+2 | BY2+3 | BY2+4 |
| MOVES SLC – Fabricate Prototypes | ▲ | | | | | | | |
| MOVES SLC - Bench Test Prototypes | | ▲ | | | | | | |
| MOVES SLC- Develop test plans | | ▲ | | | | | | |
| MOVES SLC – Fabricate Beta Prototypes | | ▲ | | | | | | |
| MOVES SLC – Verification and Validation Testing | | | ▼ | | | | | |
| MADM - Critical Design Review | ▲ | | | | | | | |
| MADM - Animal Studies | | ▲ | | | | | | |
| MADM - Human Studies | | | ▲ | | | | | |
| MADM - Final Report | | | ▲ | | | | | |

▲ Milestone
▼ Demonstration

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604771N: <i>Medical Development</i> | PROJECT 0933: <i>Medical/Dental Equipment Dev</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 0933 | | | | |
| 0933 - SLC - Fabricate Alpha Prototypes | 3 | 2010 | 4 | 2010 |
| 0933 - SLC Bench Test Prototypes | 1 | 2011 | 1 | 2011 |
| 0933 - SLC Develop Test Plans | 1 | 2011 | 2 | 2011 |
| 0933 - SLC Fabricate Beta Prototypes | 3 | 2011 | 3 | 2011 |
| 0933 - SLC Verification and Validation Testing | 4 | 2011 | 2 | 2012 |
| 0933 - MADM - Critical Design Review | 1 | 2010 | 4 | 2010 |
| 0933 - MADM - Animal Studies | 1 | 2010 | 4 | 2011 |
| 0933 - MADM - Human Studies | 1 | 2010 | 4 | 2012 |
| 0933 - MADM - Final Report | 4 | 2012 | 4 | 2012 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604771N: <i>Medical Development</i> | PROJECT 9999: <i>Congressional Adds</i> |
|---|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 9999: <i>Congressional Adds</i> | 46.845 | - | - | - | - | - | - | - | - | 0.000 | 46.845 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Congressional Adds

B. Accomplishments/Planned Programs (\$ in Millions)

| | FY 2010 | FY 2011 |
|--|---------|---------|
| Congressional Add: Biocidal Wound Dressings | 1.195 | - |
| FY 2010 Accomplishments: This project will consist of testing and evaluation of wound dressings, which may remove more than 99.999% of bacteria, fungi and viruses passing through their media. | | |
| Congressional Add: Deployment Health and Chronic Disease Surveillance | 0.797 | - |
| FY 2010 Accomplishments: This project will demonstrate and evaluate patient encounter points in the Arlington Health Clinics and provide lessons learned for health care record surveillance to the Department of Defense as a demonstration project. This demonstration will leverage civilian operational clinical settings in Northern Virginia and then evaluated for deployment applicability within the DoD. | | |
| Congressional Add: Integrated Psycho-Social Health Care Demonstration Program | 0.996 | - |
| FY 2010 Accomplishments: This project proposes to enhance healthcare for US service members and their families, and to proactively address their unique psychological healthcare needs through the use of industry-leading targeted population management models. It will target a pilot population of DoD beneficiaries within a designated Military Treatment Facility area. | | |
| Congressional Add: Management of Lung Injury by Micronutrients | 1.195 | - |
| FY 2010 Accomplishments: Continuation of pilot project that defined oxidative damage and inflammation in lung injury in military recruits and made a preliminary assessment of the effects of antioxidant micronutrient supplementation. The prospective, randomized, double blind, placebo-controlled study will evaluate impact on respiratory disease, military readiness and quality of life as well as laboratory data including antioxidant levels, markers of oxidative damage and inflammation. | | |
| Congressional Add: Multivalent Dengue Vaccine Program | 1.275 | - |
| FY 2010 Accomplishments: Continued work to manufacture the two vaccine mixture under Good Manufacturing Processes (GMP) conditions for a Phase I clinical investigation; execution of the Phase I clinical | | |

UNCLASSIFIED

| | | |
|--|---|---|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604771N: <i>Medical Development</i> | PROJECT 9999: <i>Congressional Adds</i> |
| B. Accomplishments/Planned Programs (\$ in Millions) | FY 2010 | FY 2011 |
| trial; and develop and test a single vaccine candidate that will produce neutralizing antibodies against all four serotypes in vaccinated animals. | | |
| Congressional Add: National Functional Geonomics Center Colloborating Site | 3.187 | - |
| FY 2010 Accomplishments: This project will establish the Penn State Center for Pharmacogenetics which will create a repository of samples from every cancer patient that visits Penn State. | | |
| Congressional Add: Simplified Orthopedic Surgery | 4.222 | - |
| FY 2010 Accomplishments: This project will further develop a computer-aided system that simplifies complex orthopedic surgical procedures by enabling them to be performed more accurately and quickly without using cumbersome and expensive mechanical jigs. | | |
| Congressional Add: Wound Care Research (transferred from Defense Health Program) | 12.946 | - |
| FY 2010 Accomplishments: This project will support research for the advancement of deep tissue and surface wound care. | | |
| Congressional Add: Military Dental Research | 5.975 | - |
| FY 2010 Accomplishments: Develop Antimicrobial Nanoemulsions to Prevent Infections in the Field. Evaluate the Incidence and Treatment Required for Dental Emergencies Occurring in Deployed Military Personnel. Conduct critical research in development of Antimicrobial Resin. | | |
| Congressional Add: Advanced Molecular Medicine Initiative | 0.797 | - |
| FY 2010 Accomplishments: Continued research to improve cancer therapy primarily through improved understanding of cancer cell targeting with a focus on radiation therapy and in addition use of pioneering efforts of these investigators in science of radiation resistance to improve radiation resistance for potential casualties. | | |
| Congressional Add: On-Demand Custom Body Implants/Prosthesis For Inju | 1.593 | - |
| FY 2010 Accomplishments: Continue testing and evaluation of Phase I efforts to develop manufacturing methods and materials necessary for rapid prototyping and delivery of prostheses. Apply state-of-the-art CAD/CAM procedures to prosthesis manufacturing technology. | | |
| Congressional Add: Hampton University Cancer Treatment Initiative | 3.983 | - |
| FY 2010 Accomplishments: R&D efforts in continued support of continued progress in advanced technologies for diagnosis and treatment of cancer. Particular emphasis is placed on military and military veterans. | | |
| Congressional Add: Mobile Oxygen, Venilation & External Suction (Mo | 2.709 | - |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604771N: <i>Medical Development</i> | PROJECT 9999: <i>Congressional Adds</i> |
|---|---|---|

| B. Accomplishments/Planned Programs (\$ in Millions) | FY 2010 | FY 2011 |
|---|----------------|----------------|
| <i>FY 2010 Accomplishments:</i> Continued reconfiguration of Low Rate Initial Production (LRIP) units Monitoring, Oxygen Ventilation and External Suction System (MOVES) human factors, weight, cube and cost. Reconfiguration of MOVES is specifically targeted to reduce weight and cost. Incorporate requirements from other services into LRIP units as part of the planned next generation research and development spiral. Configuration will be based on feedback from the warfighter and joint requirements for en-route care. | | |
| <i>Congressional Add:</i> US Navy Pandemic Influenza Vaccine Program | 1.593 | - |
| <i>FY 2010 Accomplishments:</i> Initiated research to develop safe and effective pandemic influenza vaccines. Develop strategies to assure and protect the health of military personnel with these vaccines. | | |
| <i>Congressional Add:</i> Composite Tissue Transplantation for Combat Wounded | 1.992 | - |
| <i>FY 2010 Accomplishments:</i> The FY10 funds will be used to conduct clinical trials for hand transplants. Identified and prepared candidate recipient for transplant. Awaiting compatible donor. All preparation works has continued during this phase. These funds are executed through an existing cooperative agreement through the National Business Center to Emory University. | | |
| <i>Congressional Add:</i> US Navy Cancer Vaccine Program | 2.390 | - |
| <i>FY 2010 Accomplishments:</i> Continue development of a novel prostate cancer vaccine developed by Oncbiomune, LLC and support the development of an IND submission needed for FDA approval. Continue the Phase IA/B clinical trial to be carried out at the VA San Diego Healthcare System, located in San Diego, CA. US military veterans who have received previous treatment (surgery, radiation or radioactive seed implants) and now have a rising PSA are study participants. | | |
| Congressional Adds Subtotals | 46.845 | - |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

Congressional Adds

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604777N: <i>Navigation/Id System</i> |
|---|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| Total Program Element | 60.516 | 66.636 | 50.178 | - | 50.178 | 48.151 | 45.566 | 41.200 | 45.543 | Continuing | Continuing |
| 0253: <i>Nav & Electro-Optical Supt</i> | 7.651 | 7.470 | 5.986 | - | 5.986 | 7.579 | 7.654 | 7.818 | 7.955 | Continuing | Continuing |
| 0676: <i>Improve ID Development</i> | 2.692 | 2.662 | 1.842 | - | 1.842 | 2.337 | 2.399 | 2.419 | 2.438 | Continuing | Continuing |
| 0921: <i>NAVSTAR GPS Equipment</i> | 20.849 | 20.021 | 20.038 | - | 20.038 | 21.167 | 21.388 | 21.662 | 21.920 | Continuing | Continuing |
| 1253: <i>Combat Ident System</i> | 29.324 | 36.483 | 22.312 | - | 22.312 | 17.068 | 14.125 | 9.301 | 13.230 | Continuing | Continuing |

A. Mission Description and Budget Item Justification

Reliable and secure navigation and positive identification (ID) systems are essential elements of battle management in the naval environment. The Photonics Imaging System (0253) is a non-hull penetrating replacement for existing optical periscopes. The Photonics Imaging System exploits a wide portion of the electro-magnetic spectrum utilizing advanced Electro-Optic/thermal imaging, and communications intercept/Electronic Warfare Support (ES). The Integrated Submarine Imaging System (ISIS) (0253) is a back fit system to integrate all imaging capabilities on existing submarine classes. The Combat Identification System (CIS) project (1253) for Mark XIIA, and Improved Identification Development (0676) for AN/UPX-29(V), covers the Navy lead of a Mark XIIA Mode 5 upgrade to the existing Mark XII family of systems that is Joint and North Atlantic Treaty Organization (NATO) interoperable. Per OSD direction, NATO participation is encouraged and performance data is exchanged to ensure the opportunity for interoperability with allied identification systems is maximized. In addition to distinguishing friend from foe for weapons employment, the Navy requires secure, jam resistant Identification Friend or Foe (IFF) systems for battle group air defense management and air traffic control. Identification is multifaceted and includes information received from several sensors (both cooperative and non-cooperative systems). NAVSTAR Global Positioning System (GPS) project (0921) is a space-based positioning, navigation and timing (PNT) system that provides authorized users with secure, worldwide, all weather, three dimensional position, velocity and precise time data. Navigation Sensor System Interface (NAVSSI) is a system that provides an integrated navigation message structure for network distribution to support combat, command and control, information and other mission critical capabilities. Navy Air and Sea Navigation Warfare (NAVWAR) are major elements of the GPS program. NAVWAR's mission is to provide continued access to GPS information in a denied environment. NAVWAR accomplishes this through the use of enhanced user equipment (UE). GPS Modernization addresses the Navy's future integration of GPS Joint Program Office (JPO) Modernized User Equipment (MUE) products being developed that will enable the use of new signals in space. WRN-X is a modernized ship GPS equipment development program required to provide a replacement for the existing WRN-6 receiver and other shipboard receivers. Navigation Sensor System Interface (NAVSSI) is a surface based system that integrates shipboard position, navigation and timing data, and distributes the processed output to user systems and networks.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|--|
| APPROPRIATION/BUDGET ACTIVITY | R-1 ITEM NOMENCLATURE |
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> | PE 0604777N: <i>Navigation/Id System</i> |
| BA 5: <i>Development & Demonstration (SDD)</i> | |

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 62.886 | 66.636 | 67.420 | - | 67.420 |
| Current President's Budget | 60.516 | 66.636 | 50.178 | - | 50.178 |
| Total Adjustments | -2.370 | - | -17.242 | - | -17.242 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | -0.915 | - | | | |
| • SBIR/STTR Transfer | -1.076 | - | | | |
| • Program Adjustments | - | - | -16.657 | - | -16.657 |
| • Section 219 Reprogramming | -0.363 | - | - | - | - |
| • Rate/Misc Adjustments | - | - | -0.585 | - | -0.585 |
| • Congressional General Reductions Adjustments | -0.016 | - | - | - | - |

Change Summary Explanation

Technical: Not applicable.

Schedule:

Realigned Funding due to increased requirement to Mode 5 Improvement in support of Operational Assessment deficiencies. This drove schedule changes for both projects 0676 and 1253.

Project 0676: Changes in the OE-120/UPX Antenna schedule reflect the revised Mode 5 Acquisition Program Baseline. Changes to the the OE-120 Contract Schedule and Review Milestones reflects reprioritization of Operation Assessment correction of deficiencies. Removal of the Naval Tactical Data System elimination efforts reflects reprioritization of Operation Assessment correction of deficiencies. The Mode 5 Joint IOC scheduled for 4QFY14 will not include F/A-18E/F, EA-18G, and KC-130J per JROCM 047-07.

Project 1253: The Mode 5 Joint IOC scheduled for 4QFY14 will not include F/A-18E/F, EA-18G, and KC-130J per JROCM 047-07.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | R-1 ITEM NOMENCLATURE PE 0604777N: <i>Navigation/Id System</i> | | | | PROJECT 0253: <i>Nav & Electro-Optical Supt</i> | | | | |
|---|----------------|----------------|--|--------------------|----------------------|----------------|---|----------------|----------------|-------------------------|-------------------|
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| 0253: <i>Nav & Electro-Optical Supt</i> | 7.651 | 7.470 | 5.986 | - | 5.986 | 7.579 | 7.654 | 7.818 | 7.955 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

The Navigation and Electro-Optical (E-O) Support program develops Submarine Electro-Optical and imagery systems and equipment that will improve submarine imaging capability in the areas of: ship safety, Intelligence, Surveillance and Reconnaissance (ISR), and tactical control (contact management in the littorals). The Photonics Imaging System, mounted on the Universal Modular Mast, will provide imaging capability for the SSGN and VIRGINIA Class submarines. The Photonics Imaging System design exploits a wide portion of the electro-magnetic spectrum through advanced E-O and thermal imaging and Electronic Warfare Support (ES)/ Communications intercept. It will provide significant improvements in submarine stealth and Infra-Red (IR) imaging capability. The non-hull penetrating design provides freedom in ship design and space savings for SSGN and VIRGINIA Class and future submarines designs. The system was designed to satisfy Operational Requirement #365-87-94. Specific efforts include: (1) Low Light Level TV development, digital sensor development and integration, and displays, and (2) Imaging System Test Efforts.

The Department of the Navy established the Integrated Submarine Imaging System (ISIS) to rapidly field the Type 18 Periscope Patriot Rangefinder, Type 8 Mod 4 IR Periscope systems, and integrate existing periscope imagery systems into a single system for installation on board SSN 688 Class and SEAWOLF Class submarines. The ISIS baseline includes the Type 18 Periscope Patriot Rangefinder, Type 8 Mod 4 IR Periscope, and supports high intensity operations in the littorals and provides the submarine force with the tactical imaging systems necessary to safely and effectively employ its surveillance and weapons capabilities. Specific efforts undertaken to meet the ISIS requirements are: (1) Type 18 Periscope Automated Range Finder development; (2) Development of hardware capabilities common to ISIS and Photonics via the Technology Insertion process. The AN/BVS-1 Photonics Mast Program (PMP) is dated 24 Sept 2001 and provides for the development and acquisition of a non-hull penetrating submarine electronic imaging system for VIRGINIA Class submarines. The Integrated Submarine Imaging System (ISIS) is dated 07 Jul 2003 and will provide mission critical, all weather, visual, and electronic search, digital image management, indication, warning, and platform architecture interface capabilities for SSN 688, SSN 21, SSN 774 and SSGN Class submarines.

This program funds the development of Patriot Radar Range Finding for Photonics for SSGN and VIRGINIA Class Submarines. Patriot for Photonics will provide SSGN and VIRGINIA Class submarines with enhanced situational awareness and collision avoidance. Currently Patriot has only been developed for SSN 688 and SSN 21 Class submarines. This effort will provide Patriot Radar Range Finding to SSGN and VIRGINIA Class submarines on the Photonics Mast.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|---|----------------|----------------|----------------|
| Title: Upgrade/Resolve Obsolete Photonics On-Board Team Trainer development. | 0.139 | 0.131 | - |
| Articles: | 0 | 0 | |
| FY 2010 Accomplishments: | | | |

UNCLASSIFIED

| | | | | |
|--|--|---|----------------|----------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604777N: <i>Navigation/Id System</i> | PROJECT 0253: <i>Nav & Electro-Optical Supt</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| Further developed the PMOBT system and necessary interface components to allow simulation of future capabilities of the Photonics Mast. In addition, updated hardware and software for obsolescence and other associated improvements. FY 2011 Plans: Update hardware and software of the PMOBT system for obsolescence and other associated improvements. | | | | |
| Title: ISIS and Photonics common hardware capabilities development and obsolescence. FY 2010 Accomplishments: ISIS Technical Insertion (TI-10) development for LOS ANGELES and SEAWOLF Classes. ISIS Inboard System Development (TI-10) for VIRGINIA Class. FY 2011 Plans: ISIS Technical Insertion (TI-12) development for LOS ANGELES and SEAWOLF Classes. FY 2012 Plans: Continue ISIS Technical Insertion (TI) development for LOS ANGELES and SEAWOLF Classes. | | Articles: 3.919 0 | 3.989 0 | 3.227 0 |
| Title: Low Light Level TV development, digital sensor development and integration and displays. FY 2010 Accomplishments: High Definition Color Camera Integration into ISIS TI-10. Infrared Camera Upgrade Development. FY 2011 Plans: Incorporation of IR Camera Upgrades into ISIS Inboard Systems. FY 2012 Plans: Development of display upgrades. | | Articles: 2.008 0 | 1.727 0 | 1.335 0 |
| Title: Imaging Systems Test Efforts. FY 2010 Accomplishments: ISIS TI-10 EDM Testing. FY 2011 Plans: | | Articles: 1.045 0 | 1.063 0 | 0.860 0 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604777N: <i>Navigation/Id System</i> | PROJECT 0253: <i>Nav & Electro-Optical Supt</i> |
|---|--|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| ISIS TI-10 OT Testing. | | | |
| FY 2012 Plans: ISIS TI-12 EDM Testing. | | | |
| Title: Patriot Radar Range Finder Development for Photonics for SSGN and VIRGINIA Class Submarine. | 0.540 | 0.560 | 0.564 |
| Articles: | 0 | 0 | 0 |
| FY 2010 Accomplishments: Upgraded the Type 18 Periscope Automated Rangefinder Software. Integrated the VA Class MTI-10 Patriot Rangefinder and Software Development. | | | |
| FY 2011 Plans: Upgrade the Type 18 Periscope Automated Rangefinder Software. Integrate the ISIS TI-10 Patriot Rangefinder and Software Development for VIRGINIA and SSGN Classes. | | | |
| FY 2012 Plans: Continue upgrading the Type 18 Periscope Automated Rangefinder Software. Integrate the ISIS TI-10 Patriot Rangefinder and Software Development for VIRGINIA and SSGN Classes. | | | |
| Accomplishments/Planned Programs Subtotals | 7.651 | 7.470 | 5.986 |

C. Other Program Funding Summary (\$ in Millions)

| Line Item | FY 2010 | FY 2011 | FY 2012 | | | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To | |
|--|---------|---------|---------|-------|--------|---------|---------|---------|---------|------------|------------|
| | | | Base | OCO | Total | | | | | Complete | Total Cost |
| • SCN/201300: <i>Photonics Mast</i> | 18.678 | 38.978 | 36.250 | 0.000 | 36.250 | 37.102 | 37.680 | 38.542 | 39.428 | Continuing | Continuing |
| • OPN/0831: <i>Sub Periscopes & Imaging Equip.</i> | 78.973 | 85.619 | 60.860 | 0.000 | 60.860 | 54.186 | 58.724 | 53.966 | 54.888 | Continuing | Continuing |
| • RDT&E/0604558N: <i>VIRGINIA Class Design Development</i> | 2.486 | 4.400 | 3.000 | 0.000 | 3.000 | 3.200 | 3.500 | 4.500 | 3.000 | Continuing | Continuing |

D. Acquisition Strategy

The Acquisition Strategy for AN/BVS-1 Photonics Mast Program (PMP) is dated 24 Sept 2001. The PMP provides for the development and acquisition of a non-hull penetrating submarine electronic imaging system for VIRGINIA Class submarines. The Acquisition Strategy for Integrated Submarine Imaging System (ISIS) is dated 07 Jul 2003. The ISIS will provide mission critical, all weather, visual, and electronic search, digital image management, indication, warning, and platform architecture interface capabilities for SSN 688, SSN 21, SSN 774 and SSGN class submarines.

UNCLASSIFIED

| | | |
|---|--|---|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604777N: <i>Navigation/Id System</i> | PROJECT 0253: <i>Nav & Electro-Optical Supt</i> |

E. Performance Metrics

Successful application of system engineering processes. Design and development of improvements. Site acceptance of product improvements with no Priority 1 or 2 problem reports. Completion of 2 upgrade per year. Acceptance of product improvements with no Priority 1 or 2 problem reports.

The RDD program goal is to respond to urgent operational needs within 30 days and provide for rapid development and fielding of prototype solutions within 270 days.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604777N: <i>Navigation/Id System</i> | PROJECT 0253: <i>Nav & Electro-Optical Supt</i> |
|---|--|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Primary Hardware Development | WR | NUWC:Newport, RI | 11.034 | - | | - | Oct 2011 | - | | - | Continuing | Continuing | Continuing |
| Software Development | C/CPHF | Lockheed Martin:Manassas, VA | 9.712 | 1.546 | Mar 2011 | 1.328 | Oct 2011 | - | | 1.328 | Continuing | Continuing | Continuing |
| Systems Engineering | WR | NUWC:Newport, RI | 10.645 | 2.129 | Oct 2010 | 1.819 | Oct 2011 | - | | 1.819 | Continuing | Continuing | Continuing |
| Miscellaneous | WR | NUWC:Newport, RI | 3.070 | 0.519 | Oct 2010 | 0.286 | Oct 2011 | - | | 0.286 | Continuing | Continuing | Continuing |
| Primary Hardware Development | C/CPHF | Lockheed Martin:Manassas, VA | 0.134 | 1.822 | Mar 2011 | 1.421 | Oct 2011 | - | | 1.421 | 0.000 | 3.377 | |
| Subtotal | | | 34.595 | 6.016 | | 4.854 | | - | | 4.854 | | | |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Program Management Support | C/CPAF | AT&T:Vienna, VA | 2.952 | 0.569 | Mar 2011 | 0.406 | Oct 2011 | - | | 0.406 | Continuing | Continuing | Continuing |
| Subtotal | | | 2.952 | 0.569 | | 0.406 | | - | | 0.406 | | | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Development Test & Evaluation | WR | NUWC:Newport, RI | 4.622 | 0.833 | Oct 2010 | 0.672 | Oct 2011 | - | | 0.672 | Continuing | Continuing | Continuing |
| Subtotal | | | 4.622 | 0.833 | | 0.672 | | - | | 0.672 | | | |

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604777N: <i>Navigation/Id System</i> | PROJECT 0253: <i>Nav & Electro-Optical Supt</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| <i>Nav & Electro-Optical Supt</i> | | | | |
| Major Milestones: ISIS Increment I Capability Insertion: ISIS Increment I Capability Insertion Fielding (TI-10) | 2 | 2012 | 2 | 2012 |
| Major Milestones: ISIS Increment I Capability Insertion: ISIS Increment I Capability Insertion Fielding (TI-12) | 4 | 2013 | 4 | 2013 |
| Spiral Developments: ISIS: Spiral Development: ISIS TI-10 | 1 | 2010 | 1 | 2011 |
| Spiral Developments: ISIS: Spiral Development: ISIS TI-12 | 4 | 2011 | 1 | 2013 |
| Spiral Developments: ISIS: Spiral Development: ISIS TI-14 | 4 | 2013 | 1 | 2015 |
| Spiral Developments: ISIS: Spiral Development: ISIS TI-16 | 4 | 2015 | 4 | 2016 |
| Test & Evaluation: ISIS: Test & Evaluation - ISIS TI-10 EDM | 3 | 2010 | 3 | 2010 |
| Test & Evaluation: ISIS: Test & Evaluation - ISIS TI-10 OT | 4 | 2011 | 4 | 2011 |
| Test & Evaluation: ISIS: Test & Evaluation - ISIS TI-12 EDM | 3 | 2012 | 3 | 2012 |
| Test & Evaluation: ISIS: Test & Evaluation - ISIS TI-12 OT | 3 | 2013 | 3 | 2013 |
| Test & Evaluation: ISIS: ISIS Test & Evaluation - TI-14 EDM | 3 | 2014 | 3 | 2014 |
| Test & Evaluation: ISIS: Test & Evaluation - ISIS TI-14 OT | 4 | 2015 | 4 | 2015 |
| Test & Evaluation: ISIS: Test & Evaluation - ISIS TI-16 EDM | 3 | 2016 | 3 | 2016 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604777N: <i>Navigation/Id System</i> | PROJECT 0676: <i>Improve ID Development</i> |
|---|--|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|-------------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 0676: <i>Improve ID Development</i> | 2.692 | 2.662 | 1.842 | - | 1.842 | 2.337 | 2.399 | 2.419 | 2.438 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Reliable and secure navigation and positive identification (ID) systems are essential elements of battle management in the naval environment. In addition to providing platform identification for weapons employment, the Navy requires secure, jam resistant Identification Friend or Foe (IFF) systems for battle group air defense management and air traffic control. The Improved ID Development project addresses the Navy Lead of a Mark XIIA Mode 5 upgrade to the existing AN/UPX-29(V) Mark XII family of systems that is Joint and North Atlantic Treaty Organization (NATO) interoperable. This exhibit also addresses the AN/UPX-29(V) antenna, the OE-120/UPX.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|---|-----------------------|-----------------------|-----------------------|
| <p>Title: AN/UPX-29 (V) - OE-120/UPX Antenna Replacement</p> <p style="text-align: right;">Articles:</p> <p>Description: Engineering and integration development for antenna group OE-120/UPX modernization. Develop design studies and Analysis of Alternatives (AoA), draft specifications, and perform system development and integration efforts.</p> <p>FY 2010 Accomplishments: Performed Risk Mitigation for parts and components obsolescence. Evaluated Power Divider and provided redesigned alternatives.</p> <p>FY 2011 Plans: Initiate vendor Class 1 Part 1 ECP. To address obsol/producibility of the OE-120 antenna system for commissioned ships and new ship construction program.</p> <p>FY 2012 Plans: Finalize the Class 1 Part 1 ECP.</p> | <p>1.434</p> <p>0</p> | <p>1.470</p> <p>0</p> | <p>1.368</p> <p>0</p> |
| <p>Title: Mark XIIA Mode 5 Improvement for AN/UPX-29(V)</p> <p style="text-align: right;">Articles:</p> <p>Description: Engineering, development, and integration of Mark XIIA Improvements to the AN/UPX-29 (V). Correct deficiencies from Integrated Test and Operational Test (IT - OT) and baseline software and documentation. Funds development and integration of Mark XIIA Improvement to the AN/UPX-29 (V) system on CG 47, DDG 51, LHD 1, LPD 17 and CV/CVN class ships.</p> | <p>1.131</p> <p>0</p> | <p>0.992</p> <p>0</p> | <p>0.334</p> <p>0</p> |

UNCLASSIFIED

| | | | | |
|---|--|---|----------------|----------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604777N: <i>Navigation/Id System</i> | PROJECT 0676: <i>Improve ID Development</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| Provides core Integrated Logistics Support (ILS) documentation; formalizes hardware/software configuration; finalizes technical/design data, and resolves testing anomalies. FY 2010 Accomplishments: Developed and tested AN/UPX-24(V) Software V2.1.2 to correct Developmental Test Deficiencies/Operational Assessment Risk items. Developed/Tested Jitter fix to meet FAA requirements. Addressed integration issues on LHD 1, LPD, and CV/CVN. Design: Completed final IDS review and approval, completed Critical Design Review, initiated Unit and System level testing. Participated in testing, test planning and issue resolution for technical evaluation and Initial Operational Test and Evaluation (IOT&E). FY 2011 Plans: Prepare systems and platforms for IOT&E. Final deficiency resolution. Resolve any remaining system deficiencies and any final ILS documentation updates. Continue integration on LHD 1 class and begin LPD 17 integration Certification testing. Conduct interface certification testing and qualification with CEC/7.1 FY 2012 Plans: Continue AN/UPX-29(V) integration and interface certification testing with ship baselines. Evaluate and replace system processors due to obsolescence. | | | | |
| Title: AN/UPX-29(V) Management Support | | 0.127 | 0.200 | 0.140 |
| | | Articles: 0 | 0 | 0 |
| Description: Engineering and Program Management of the AN/UPX 29 (V). Perform system integration efforts. FY 2010 Accomplishments: Managed engineering investigations (EIs), provided engineering assessments, and recommended resolution. Reviewed and evaluated reports. FY 2011 Plans: Manage EIs, provide engineering assessments, and recommend resolution. Review and evaluate reports. FY 2012 Plans: Manage engineering assessments/evaluations/development efforts that provide resolution to EIs and obsolescence issues. | | | | |
| Accomplishments/Planned Programs Subtotals | | 2.692 | 2.662 | 1.842 |

UNCLASSIFIED

| | |
|--|----------------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | DATE: February 2011 |
|--|----------------------------|

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604777N: <i>Navigation/Id System</i> | PROJECT 0676: <i>Improve ID Development</i> |
|---|--|---|

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> <u>Base</u> | <u>FY 2012</u> <u>OCO</u> | <u>FY 2012</u> <u>Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
|---|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| • OPN/2851: <i>Identification Systems</i> | 37.563 | 29.572 | 33.170 | 0.000 | 33.170 | 35.662 | 39.702 | 39.545 | 36.208 | Continuing | Continuing |

D. Acquisition Strategy

The Acquisition Strategy is to develop Mode 5 Engineering Change Proposals for modern Mark XII IFF equipment and integrate into all Navy Combat Weapons systems platforms and augment the Navy's Cooperative Identification Capability to include Mode 5.

E. Performance Metrics

Successfully complete ITR and IT Regression Test in FY 2010. Achieve Full Rate Production (FRP) Decision and Initial Operational Capability and award FRP contract in FY 2012.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604777N: <i>Navigation/Id System</i> | PROJECT 0676: <i>Improve ID Development</i> |
|---|--|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Primary Hardware Development | WR | NAWCAD:St Inigoes, MD | 3.187 | 0.860 | Nov 2010 | 1.093 | Nov 2011 | - | | 1.093 | Continuing | Continuing | Continuing |
| Ship Integration | WR | NAWCAD:St Inigoes, MD | 2.000 | 0.077 | Nov 2010 | 0.075 | Nov 2011 | - | | 0.075 | Continuing | Continuing | Continuing |
| Systems Engineering | WR | NAWCAD:St Inigoes, MD | 4.469 | 0.533 | Nov 2010 | 0.200 | Nov 2011 | - | | 0.200 | Continuing | Continuing | Continuing |
| Subtotal | | | 9.656 | 1.470 | | 1.368 | | - | | 1.368 | | | |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Configuration Management | WR | NAWCAD:St Inigoes, MD | 0.169 | - | | - | | - | | - | 0.000 | 0.169 | |
| ILS | WR | NAWCAD:St Inigoes, MD | 2.334 | 0.037 | Nov 2010 | 0.056 | Nov 2011 | - | | 0.056 | Continuing | Continuing | Continuing |
| Software Development | WR | NAWCAD:St Inigoes, MD | 4.312 | 0.769 | Nov 2010 | 0.093 | Nov 2011 | - | | 0.093 | Continuing | Continuing | Continuing |
| Technical Data | WR | NAWCAD:St Inigoes, MD | 1.061 | 0.186 | Nov 2010 | 0.185 | Nov 2011 | - | | 0.185 | Continuing | Continuing | Continuing |
| Training | WR | NAWCAD:St Inigoes, MD | 0.200 | - | | - | | - | | - | 0.000 | 0.200 | |
| Subtotal | | | 8.076 | 0.992 | | 0.334 | | - | | 0.334 | | | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Developmental Test & Evaluation | WR | NAWCAD:St Inigoes, MD | 0.500 | - | | - | | - | | - | 0.000 | 0.500 | |
| Operational Test & Evaluation | WR | | 1.328 | - | | - | | - | | - | 0.000 | 1.328 | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604777N: <i>Navigation/Id System</i> | PROJECT 0676: <i>Improve ID Development</i> |
|---|--|---|

| OE-120/UPX Antenna Improv Identification Dev | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | | | | | |
|---|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|--|--|--|--|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | | | | |
| System Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reviews | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

UNCLASSIFIED

| | | |
|---|--|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604777N: <i>Navigation/Id System</i> | PROJECT 0676: <i>Improve ID Development</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Mode 5 Improv Identification Dev | | | | |
| Acquisition Milestones: Milestones: Mode 5 - Full Rate Production Decision Review (FRPDR) | 1 | 2012 | 1 | 2012 |
| Acquisition Milestones: Milestones: IOC | 1 | 2012 | 1 | 2012 |
| Acquisition Milestones: Milestones: Mode 5 - Joint IOC | 4 | 2014 | 4 | 2014 |
| System Development: Reviews: Operational Test Readiness Review (OTRR) | 3 | 2011 | 3 | 2011 |
| Test & Evaluation Group: Operational Evaluation: Mode 5 - IT Regression Test | 3 | 2010 | 4 | 2010 |
| Test & Evaluation Group: Operational Evaluation: Mode 5 - OT-C2 (IOT&E) | 4 | 2011 | 4 | 2011 |
| Test & Evaluation Group: Operational Evaluation: Mode 5 - IOT&E Outbrief | 1 | 2012 | 1 | 2012 |
| Test & Evaluation Group: Operational Evaluation: Mode 5 - Follow-on Test and Evaluation | 1 | 2012 | 4 | 2016 |
| Production Milestones: Contract Awards: Mode 5 - LRIP 5 Contract Award (OPN, APN5, RDTEN) | 2 | 2010 | 2 | 2010 |
| Production Milestones: Contract Awards: Mode 5 - LRIP 6 Contract Award (OPN, APN5, RDTEN) | 1 | 2011 | 1 | 2011 |
| Production Milestones: Contract Awards: Mode 5 - FRP Contract Award | 2 | 2012 | 2 | 2012 |
| Deliveries: Mode 5 - Low-Rate Initial Production Deliveries (DI,CXP) (OPN, APN5, RDTEN) | 1 | 2010 | 2 | 2013 |
| Deliveries: Mode 5 - Production Line Insertion | 1 | 2010 | 4 | 2016 |
| Deliveries: Mode 5 - Prepare and Evaluate ECPs/SCDs | 1 | 2010 | 4 | 2016 |
| Deliveries: Mode 5 - Host Platform Integrations | 1 | 2010 | 4 | 2016 |
| Deliveries: Mode 5 - FRP Deliveries | 2 | 2013 | 4 | 2016 |
| OE-120/UPX Antenna Improv Identification Dev | | | | |

UNCLASSIFIED

| | | |
|---|--|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604777N: <i>Navigation/Id System</i> | PROJECT 0676: <i>Improve ID Development</i> |

| Events by Sub Project | Start | | End | |
|--|----------------|-------------|----------------|-------------|
| | Quarter | Year | Quarter | Year |
| System Development: Reviews: OE-120/UPX Antenna - System Functional Review (SFR) | 4 | 2015 | 4 | 2015 |
| System Development: Reviews: OE-120/UPX Antenna - PDR | 3 | 2016 | 3 | 2016 |
| System Development: Reviews: Part 1 Engeneering Change Proposal Class 1 | 1 | 2011 | 4 | 2012 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604777N: <i>Navigation/Id System</i> | PROJECT 0921: <i>NAVSTAR GPS Equipment</i> |
|---|--|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|------------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 0921: <i>NAVSTAR GPS Equipment</i> | 20.849 | 20.021 | 20.038 | - | 20.038 | 21.167 | 21.388 | 21.662 | 21.920 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

NAVSTAR Global Positioning System (GPS) project (0921) is a space-based positioning, navigation, and timing (PNT) system that provides authorized users with secure, worldwide, all weather, three dimensional position, velocity, and precise time data. Research, Development, Testing and Evaluation (RDT&E) funds are used to perform all the non-recurring GPS Surface Ship, Submarine and Aircraft Development, Integration, and Testing efforts. GPS continues to be integrated in all DoD platforms and the development of enhanced GPS is an urgent national security priority in accordance with US Code - 10USC2281 of 15 November 2005. As stated in the Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 6130.01D, 2007 Master Positioning, Navigation, and Timing Plan (MPNTP), "GPS is the primary source of Positioning Navigation and Timing (PNT) information for the DoD." Additionally, "beyond October 2006, hardware upgrades or modifications to operational subsystems from a non-GPS equipped subsystem to a GPS equipped subsystem or any upgrade of modification to existing GPS equipped subsystems, shall incorporate Selective Availability Anti-Spoofing Module (SAASM) or Military GPS User Equipment (MGUE)." In accordance with OPNAVINST 9420.1B "GPS Precise Positioning Service (PPS) systems shall be used for all combat, combat support, and combat service support operations and training" to provide assured access to accurate position and performance under intentional and unintentional interference. This direction is in keeping with the National Security/Presidential Directive (NSPD)-39 of 15 December 2004 and current solutions are well-supported by numerous studies and analyses that include Defense Science Board Task Force reports (October 2005), the DoD's GPS III System Architecture/Requirements Definition (SA/RD) of January 2003, and various DoD and Navy requirements documents.

The Naval Research Advisory Committee (NRAC) GPS Vulnerability Study Panel assessed the Navy's GPS Vulnerabilities and recommended specific actions to resolve serious issues to ensure the continued availability of GPS information in a high risk hostile jamming environment. As a result, the Navy Enhanced GPS User Equipment Operational Requirement Document (ORD) was drafted to address operational requirements. The requirements were validated and the ORD was approved on June 7, 2000. With this beginning, OSD directed the first phase of the Navy's overall GPS Navigation Warfare (NAVWAR) upgrade program with RDT&E leading to initial procurements of GPS anti-jam (AJ) antennas beginning in 2001 for aircraft and 2002 for ships. NAVWAR's mission is to provide continued access to GPS information in a denied environment. RDT&E continues to support platform integration requirements, Developmental Test/Operational Test (DT/OT), the Navy's development of a smaller Anti-Jam (AJ) antenna and a conformal low-observable AJ antenna for aircraft with unique requirements, and new technology AJ solutions for submarines.

Two similar but separate ACAT III programs (Air and Sea NAVWAR) have been established and have become the basis for the Navy's Air and Sea Navigation Warfare (NAVWAR) programs. The Sea NAVWAR Program is executed in 3 increments. The GPS Antenna System (GAS-1) is integrated on surface platforms in Increment 1. Increment 2 is Advanced Digital Antenna Production (ADAP). It is an enhanced adaptive AJ antenna system based on advanced digital electronics and digital signal processing planned for surface ship integrations. Increment 3 addresses AJ capabilities for submarines. The Air NAVWAR program is a single increment with GAS-1, ADAP, and other efforts continuing. The Capability Production Document for Sea NAVWAR Increment 2 (12/08) was approved to support the ADAP production and procurement.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604777N: <i>Navigation/Id System</i> | PROJECT 0921: <i>NAVSTAR GPS Equipment</i> |
|---|--|--|

The primary GPS shipboard systems fielded on the majority of U.S. Navy ships today include the AN/WRN-6 and the Navigation Sensor System Interface (NAVSSI). These military GPS systems provide precise Position, Navigation, and Time (PNT) data required for many Combat, Weapons, Command, Control, Communications, Navigation, and other systems, as well as providing the time synchronization critical to the network environments.

The Global Positioning System (GPS)-based Positioning, Navigation, and Timing (PNT) Service (GPNTS) system is being developed to replace stand-alone AN/WRN-6 receivers and integrated Navigation Sensor System Interface (NAVSSI) systems. Additionally, future capability will migrate toward a Common Computing Environment (CCE) such as Consolidated Afloat Networks Enterprise Services (CANES).

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|--|------------|------------|------------|
| <p>Title: Air Navigation Warfare (NAVWAR)</p> <p style="text-align: right;">Articles:</p> <p>FY 2010 Accomplishments: Continued integration of Controlled Reception Pattern Antenna (C-CRPA) and Advanced Digital Antenna Production (ADAP) on F/A-18 E/F/G and NAVWAR on other Air platforms to include unmanned air systems (UAS) and weapons. Started developmental testing of C-CRPA and ADAP on F/A-18 E/F/G. Continued Selective Availability Anti-Spoofing Module (SAASM) integration and testing on Air platforms. Monitored Small Antenna System (SAS)/Miniaturized - Controlled Reception Pattern Antenna (M-CRPA) development. Started GPS Modernization platform impact studies and provided Navy unique requirements to GPS Wing. Developed Navy Air GPS Modernization Acquisition Strategy, Systems Engineering Plan and Test and Evaluation Master Plan (TEMP). Coordinated GPS Modernization efforts with other programs and DoD services to reduce impacts to platform navigation systems. Participated in joint NAVWAR Memorandum of Understanding (MOU) initiatives with Canada, United Kingdom and Australia.</p> <p>FY 2011 Plans: Complete integration, developmental and operational testing of the NAVWAR anti-jam capability on F/A-18 E/F/G. Monitor SAS/M-CRPA development. Continue integration of NAVWAR on other Air platforms to include unmanned air systems and weapons. Continue GPS Modernization platform impact studies and provide Navy unique requirements to the GPS Wing. Continue to coordinate GPS Modernization efforts with other programs and DoD services to reduce impacts to platform navigation systems. Start studies for integration of GPS Wing developed Military GPS User Equipment (MGUE) into Air platforms. Participate in joint NAVWAR MOU initiatives with Canada, United Kingdom and Australia.</p> <p>FY 2012 Plans: Continue to assist other air platforms with integration of anti-jam capability to include UAS and weapons. Provide assured PNT efforts to Naval aircraft. Continue to provide GPS Modernization Navy unique requirements to GPS Wing. Continue to keep the Fleet apprised of GPS Enterprise SAASM developments. Continue to coordinate GPS Modernization efforts with other programs</p> | 6.865 0 | 7.251 0 | 4.698 0 |

UNCLASSIFIED

| | | | | |
|---|--|--|----------------|----------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604777N: <i>Navigation/Id System</i> | PROJECT 0921: <i>NAVSTAR GPS Equipment</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| and DoD services to reduce impacts to platform navigation systems. Participate in joint NAVWAR MOU initiatives with Canada, United Kingdom and Australia. | | | | |
| Title: Sea Navigation Warfare (NAVWAR) | | | | |
| | | Articles: | | |
| FY 2010 Accomplishments: Increment 2 Advanced Digital Antenna Production (ADAP): Completed Developmental Testing (DT) and supported Operational Assessment. Achieved Milestone C in 2Q10. Completed activities to support DT/OT on DDG 4Q10. Participated in joint Navigation Warfare (NAVWAR) Memorandum of Understanding (MOU) initiatives with Canada, United Kingdom, and Australia. | | 4.132 | 4.776 | 2.990 |
| FY 2011 Plans: Increment 2 (ADAP): Conduct DT and integration of ADAP on Cruiser Guided Missile (CG) ships and Carrier Vessel Nuclear (CVN) ships. Initiate discussion of Increment 3 Submarine Anti-Jam (SUB AJ) Analysis of Alternatives (AoA). Participation in joint NAVWAR MOU initiatives with Canada, United Kingdom, and Australia. | | 0 | 0 | 0 |
| FY 2012 Plans: Increment 3 (SUB AJ): Begin acquisition and logistics documentation in support of Milestone B. Participation in joint NAVWAR MOU initiatives with Canada, United Kingdom, and Australia. | | | | |
| Title: Global Positioning System (GPS) - Based Positioning, Navigation and Timing (PNT) Service (GPNTS) | | | | |
| | | Articles: | | |
| FY 2010 Accomplishments: Began preparation of a Milestone B decision. Initiated source selection activities and a contract award for system development. Supported preparation of post contract award activities including tracking of contractor deliverables, earned value management, and financial management. Continued preparation of the Technical Requirements Document (TRD), the System Requirements Review (SSR) and the System Functional Reviews (SFR) to prepare for the Preliminary Design Review. | | 9.852 | 7.994 | 12.350 |
| FY 2011 Plans: Obtain a Milestone B decision. Award System Design and Development (SDD) contract. Develop statutory and regulatory acquisition requirements in accordance with the Milestone B Acquisition Decision Memorandum (ADM). Prepare the program for Preliminary Design Review (PDR). | | 0 | 0 | 0 |
| FY 2012 Plans: Complete post award contract activities. Conduct the Initial Baseline Review (IBR) with the Contractor. Complete Earned Value Management (EVM) analysis as required and monitor contract activities. Update acquisition documentation as necessary to support program changes. Provide engineering and technical support to the Contractor to ensure system design and software | | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604777N: <i>Navigation/Id System</i> | PROJECT 0921: <i>NAVSTAR GPS Equipment</i> |
|---|--|--|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|--|---------|---------|---------|
| development are in alignment with the Capabilities Development Document (CDD) and Technical Requirements Document (TRD). Review the System Engineering Master Plan (SEMP) provided by the Contractor. Conduct the program's Preliminary Design Review (PDR) and post Preliminary Design Review assessment event with the Milestone Decision Authority (MDA). Prepare the program to conduct the Critical Design Review (CDR) and the Capability Production Document (CPD) in the following fiscal year. Completion of the Preliminary Design Review event and obtainment of the Preliminary Design Review Acquisition Decision Memorandum (ADM). | | | |
| Accomplishments/Planned Programs Subtotals | 20.849 | 20.021 | 20.038 |

C. Other Program Funding Summary (\$ in Millions)

| Line Item | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|---------|---------|-----------------|----------------|------------------|---------|---------|---------|---------|---------------------|------------|
| • OPN / 2657, 0604777N: <i>Other Procurement, Navy</i> | 7.940 | 9.319 | 9.926 | 0.000 | 9.926 | 9.564 | 12.445 | 15.654 | 16.265 | Continuing | Continuing |
| • APN / 0577: <i>Common Avionics</i> | 7.412 | 10.952 | 8.834 | 0.000 | 8.834 | 8.962 | 9.359 | 9.379 | 9.781 | 147.974 | 212.653 |

D. Acquisition Strategy

Navigation Warfare (NAVWAR): The Sea NAVWAR Program is executed in 3 increments. The Global Positioning System (GPS) Antenna System (GAS-1) is integrated on surface platforms in Increment 1. Increment 2 is Advanced Development Antenna Production (ADAP). Increment 3 is a submarine anti-jam solution (SUB AJ). The Air NAVWAR program is executed in a single increment with GAS-1 and ADAP to integrate on air platforms, and development of a smaller Anti-Jam (AJ) antenna and a conformal low-observable AJ antenna for aircraft with unique requirements.

GPNTS: The GPS-based Positioning, Navigation, and Timing Service (GPNTS) program will be conducted in two increments. Increment 1 will develop, acquire, and field the GPNTS, a scalable Selective Availability / Anti-Spoofing Module (SAASM) GPS based Service Oriented Architecture Positioning, Navigation, and Timing (PNT) system that will provide an open, extensible, modernized replacement for the current fleet PNT systems, while targeting Common Computing Environments (CCE). Increment 2 will integrate Military GPS User Equipment (MGUE) that will allow the U.S. Navy to leverage current and future technology development provided by the GPS Wing, formerly known as the GPS Joint Program Office (JPO). GPNTS will operate at the UNCLASSIFIED level, and can provide the PNT data to higher classified systems.

E. Performance Metrics

The primary metric used for the Air NAVWAR Program is acceptable system performance in a GPS denied environment which is defined by classified values of jamming to signal ratio (J/S) identified in the Enhanced GPS User Equipment (UE) Operational Requirements Document (ORD) 562-06-00 of 7 June 2000. The performance goal is met if acceptable system performance is achieved in the threshold J/S environment cited in the classified appendix.

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604777N: <i>Navigation/Id System</i> | PROJECT 0921: <i>NAVSTAR GPS Equipment</i> |
| <p>The primary metric used for the Sea NAVWAR is acceptable system performance in a GPS denial environment defined by classified values of jamming to signal ratio (J/S) identified in the Sea NAVWAR Increment 2 Capabilities Production Document (CPD) (12/08). The performance goal is met if acceptable system performance is achieved in the threshold J/S environment cited in the CPD.</p> <p>The primary metrics used for the GPNTS is successful completion of the system development as outlined in the GPNTS Technical Requirement Document.</p> | | |

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604777N: <i>Navigation/Id System</i> | PROJECT 0921: <i>NAVSTAR GPS Equipment</i> |
|---|--|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Product Development | WR | SSC PAC/NAWC:San Diego/China Lake, Pax River | 273.477 | 2.298 | Oct 2010 | - | | - | | - | 0.000 | 275.775 | |
| Product Development | WR | SSC PAC:San Diego | 70.409 | 0.600 | Oct 2010 | 0.900 | Oct 2011 | - | | 0.900 | 0.000 | 71.909 | |
| Product Dev (other in house) | WR | SSC PAC:San Diego | 439.397 | - | | - | | - | | - | 0.000 | 439.397 | |
| Systems Engineering | WR | Govt/Contractor:San Diego | 18.391 | 1.750 | Oct 2010 | 0.855 | Jan 2012 | - | | 0.855 | 0.000 | 20.996 | |
| Product Development | C/CPIF | Unknown:Unknown | - | 2.593 | Oct 2010 | 8.531 | Jan 2012 | - | | 8.531 | 0.000 | 11.124 | |
| Product Development | C/CPFF | Boeing:St Louis | 15.445 | - | | - | | - | | - | 0.000 | 15.445 | |
| Subtotal | | | 817.119 | 7.241 | | 10.286 | | - | | 10.286 | 0.000 | 834.646 | |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|------------------------|--|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Development Support | WR | SSC PAC/NAWC:San Diego/Pax River/China Lake | 12.710 | - | | - | | - | | - | 0.000 | 12.710 | |
| Software Development | WR | SSC PAC/NAWC:San Diego/Pax River/ China Lake | 10.300 | 0.150 | Oct 2010 | - | | - | | - | 0.000 | 10.450 | |
| Integrated Logistics Support | WR | SSC PAC/NAWC:San Diego/Pax River | 6.402 | 0.700 | Oct 2010 | 0.596 | Dec 2011 | - | | 0.596 | 0.000 | 7.698 | |
| Training Development | WR | SSC PAC/NAWC:San Diego/Pax River | 4.925 | 0.450 | Oct 2010 | - | | - | | - | 0.000 | 5.375 | |
| Technical Data | WR | Platform PMOs:San Diego | 4.200 | 0.450 | Oct 2010 | - | | - | | - | 0.000 | 4.650 | |
| Technical Data | C/CPAF | BAH:San Diego, Pax River | - | - | | 0.496 | Jan 2012 | - | | 0.496 | 0.000 | 0.496 | |
| Technical Data | WR | SSC PAC:San Diego | - | - | | 2.000 | Dec 2011 | - | | 2.000 | 0.000 | 2.000 | |
| Technical Data | WR | NAWC:Pax River | - | - | | 0.254 | Dec 2011 | - | | 0.254 | 0.000 | 0.254 | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604777N: <i>Navigation/Id System</i> | PROJECT 0921: <i>NAVSTAR GPS Equipment</i> |
|---|--|--|

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Technical Data | WR | NAWC:China Lake | - | - | | 0.250 | Dec 2011 | - | | 0.250 | 0.000 | 0.250 | |
| Subtotal | | | 38.537 | 1.750 | | 3.596 | | - | | 3.596 | 0.000 | 43.883 | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Test & Evaluation | WR | SSC PAC/NAWC PAX:San Diego/Pax River | 27.929 | 1.800 | Oct 2010 | 0.608 | Nov 2011 | - | | 0.608 | 0.000 | 30.337 | |
| Test & Evaluation | C/CPAF | BAH:Pax River | 4.776 | 0.500 | Oct 2010 | - | | - | | - | 0.000 | 5.276 | |
| Test & Evaluation | WR | SSC PAC:San Diego | 7.975 | 0.900 | Oct 2010 | 2.677 | Dec 2011 | - | | 2.677 | 0.000 | 11.552 | |
| Test & Evaluation Platform Testing | WR | SSC PAC:San Diego | 28.755 | 3.272 | Oct 2010 | - | | - | | - | 0.000 | 32.027 | |
| Subtotal | | | 69.435 | 6.472 | | 3.285 | | - | | 3.285 | 0.000 | 79.192 | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|--|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Program Management Support | C/CPAF | BAH:Pax River, San Diego | 18.631 | 1.358 | Oct 2010 | 2.871 | Jan 2012 | - | | 2.871 | 0.000 | 22.860 | |
| Acquisition Workforce | Allot | Unknown:Unknown | 0.139 | - | | - | | - | | - | 0.000 | 0.139 | |
| Contractor Engineering Services | C/CPAF | BAH:San Diego, Pax River, China Lake | - | 1.400 | Oct 2010 | - | | - | | - | 0.000 | 1.400 | |
| Government Engineering Services | WR | SSC PAC, NAWC:San Diego, China Lake, Pax River | - | 1.800 | Oct 2010 | - | | - | | - | 0.000 | 1.800 | |
| Subtotal | | | 18.770 | 4.558 | | 2.871 | | - | | 2.871 | 0.000 | 26.199 | |

UNCLASSIFIED

UNCLASSIFIED

| | | | | | | | | | | |
|---|-------------------------------|----------------|--|--------------------|----------------------|-------------------------|--|---------------------------------|--|--|
| Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy | | | | | | | DATE: February 2011 | | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | R-1 ITEM NOMENCLATURE PE 0604777N: <i>Navigation/Id System</i> | | | | PROJECT 0921: <i>NAVSTAR GPS Equipment</i> | | | |
| | Total Prior Years Cost | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract | | |
| Project Cost Totals | 943.861 | 20.021 | 20.038 | - | 20.038 | 0.000 | 983.920 | | | |

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604777N: *Navigation/Id System*

PROJECT

0921: *NAVSTAR GPS Equipment*

| Fiscal Year | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | 2014 | | | | 2015 | | | | 2016 | | | | | | | |
|---|----------------|---|---|-----------|---|---|---|-----------|-----------------|---|---|-----------|-----------------|---|---|-----------|----------------------|---|---|-----------|-----------------|---|---|-----------|-----------------|---|---|-----------|-----------------|--|--|--|
| Quarter | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | | | | |
| Air Navigation Warfare (NAVWAR) Acquisition M/S * | △ GAS-1 Opt | | | | △ GAS-1 Opt | | | | △ GAS-1 Opt | | | | △ GAS-1 Opt | | | | △ GAS-1 Opt | | | | △ GAS-1 Opt | | | | △ GAS-1 Opt | | | | △ GAS-1 Opt | | | |
| | △ ADAP Opt | | | | △ ADAP Opt | | | | △ ADAP Opt | | | | △ ADAP Opt | | | | △ ADAP Opt | | | | △ ADAP Opt | | | | △ ADAP Opt | | | | △ ADAP Opt | | | |
| | | | | | △ Conformal Antenna (C-CRPA) Production Award | | | | △ C-CRPA Opt | | | | △ C-CRPA Opt | | | | △ C-CRPA Opt | | | | △ C-CRPA Opt | | | | △ C-CRPA Opt | | | | △ C-CRPA Opt | | | |
| Air Navigation Warfare (NAVWAR) Integration and T&E M/S ** | F/A-18 DT, OT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Air Navigation Warfare (NAVWAR) Platform Installation | | | | | AV-8B Installs | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | P-3C Installs | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | MH-53E Installs | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | F/A-18 E/FG Installs | | | | | | | | | | | | | | | |
| System Deliveries*** | | | | 10 | | | | 33 | | | | 25 | | | | 23 | | | | 18 | | | | 60 | | | | 60 | | | | |

* ADAP (Advanced Digital Antenna Production), C-CRPA (Conformal Controlled Reception Pattern Antenna), GAS-1/1N (GPS Antenna System /Navy) are Anti-Jam (AJ) antenna solutions for designated platforms.

** MDA direction of 3/30/06 directed streamlining Air NAVWAR program from three phases to one. Milestone C decision of Oct 2001 applies to all current phases.

*** APN quantities are approximate year-end total number of NAVWAR system deliveries. Quantities do not include RDT&E units, Spares, or those projected for new construction aircraft.

**** P3C platforms will be providing the funding for installs in FY12 and out. Installs delayed one year due to aircraft fleet wide grounding.

***** Acceleration of MH-53E installs to be completed in FY13 based on OPNAV N88 direction.

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604777N: <i>Navigation/Id System</i> | PROJECT 0921: <i>NAVSTAR GPS Equipment</i> |
|---|--|--|

| Fiscal Year | FY10 | | | | FY11 | | | | FY12 | | | | FY13 | | | | FY14 | | | | FY15 | | | | FY16 | | | | | | | | | | |
|---|------|---|--------|---------------|------|-------------------------|---|---|------|-------------------------|---|-------------------------|------|---|---|---|------|---|----------------|---|------|--------|---|---|------|---|---|---|--|----------------|--|--|--|--|----------|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | | | | | | | |
| Global Positioning System (GPS) - Based Positioning, Navigation and Timing (PNT) Service (GPNTS) Milestone/Acquisition Increment 1 * | | | △ AS | | | △ APB △ MS B △ AP | | | | △ | | Post PDR Assessment | | | | | | | | | | △ MS C | | | | | | | | IOC △ | | | | | △ FRP DR |
| GPNTS Milestone/Acquisition Increment 2 ** | | | | | | | | | | | | | | | | | | | | | | △ | | | | | | | | | | | | | |
| GPNTS CONTRACTS | | | | △ RFP Release | | △ Increment 1 AWARD | | | | △ Contract Order Placed | | △ Contract Order Placed | | | | | | | △ EDM Delivery | | | △ | | | | | | | | △ FRP Option A | | | | | |
| GPNTS TEST & EVALUATION Increment 1 * | | | △ TEMP | | | | | | | | | | | | | | △ | | | | | | | | | | | | | △ JITC Testing | | | | | △ IOT&E |

* Global Positioning System (GPS) Positioning, Navigation, Timing (PNT) Service GPNTS will be a single Program of Record (POR), which will receive, process, and distribute three dimensional position, velocity, acceleration, time, and frequency in the formats required by shipboard user systems. GPNTS will be scalable to accommodate back fit of current legacy PNT systems as well as forward fit of new platforms.

* Increment 1 will develop, acquire, and field a baseline GPNTS integrating current Selective Availability Anti-Spoof Module (SAASM) GPS receiver. GPNTS will be based on open standards in a Service Oriented Architecture (SOA) that will provide an open, extensible, and modernized replacement for the current fleet PNT systems, while targeting Common Computing Environments (CCE).

** Increment 2 will integrate Military GPS User Equipment (MGUE), which will allow the U.S. Navy to leverage current and future technology that will allow the U.S. Navy to leverage current and future technology development provided by the GPS Wing (GPSW), including Military Code (M-Code).

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604777N: *Navigation/Id System*

PROJECT

0921: *NAVSTAR GPS Equipment*

| Fiscal Year | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | 2014 | | | | 2015 | | | | 2016 | | | | | | | |
|--|----------------------------|-----|---|---|--|--------|-------|---|------|---|---|---|--------|---|---|---|-----------------------|---|---|---|----------------------|---|---|---|------|---|---|---|--|--|--|--|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | | | | |
| Sea Navigation Warfare (NAVWAR) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Acquisition M/S | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sea Increment 2 (ADAP) * | | Δ | | | | Δ | Δ | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sea Increment 3 (Sub) | | M/S | | | | FRP | IOC | | | | Δ | | | | | | | | Δ | | | | Δ | | | | | Δ | | | | |
| Sea Navigation Warfare (NAVWAR) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Submarine AJ Capability | | | | | AoS | | | | | | | | | | | | | | | | Sub AJ Development | | | | | | | | | | | |
| Sea Navigation Warfare (NAVWAR) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Platform T&E M/S | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sea Increment 2 (ADAP) DT& OT * | DT/OA | | | | DT/OT (DDG) | Δ | Δ | | | | | | LHA DT | Δ | Δ | | | | | | | | | | | | | | | | | |
| Sea Increment 3 (Sub) | | | | | | CVN DT | CG DT | | | | | | | | | | Sub DT/OA SSN/SSGN | | | | Sub DT/OT SSN 774 | | | | | | | | | | | |
| Sea Navigation Warfare (NAVWAR) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Platform Installation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sea Increment 1 (GAS-1) | GAS-1: LCAC, MCM, MHC, FFG | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sea Increment 2 (ADAP) * | | | | | ADAP: LCAC, MCM, LSD, CVN, DDG, CG, LSD, WPB | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sea Increment 3 (Sub) | | | | | | | | | | | | | | | | | | | | | Sub AJ: SSN 688, | | | | | | | | | | | |
| System Deliveries ** | 14 | | | | 16 | | | | 21 | | | | 26 | | | | 30 | | | | 34 | | | | 16 | | | | | | | |

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604777N: <i>Navigation/Id System</i> | PROJECT 0921: <i>NAVSTAR GPS Equipment</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 0921 | | | | |
| Air Navigation AV-8B Installations | 1 | 2010 | 3 | 2013 |
| Air Navigation P-3C installations | 1 | 2010 | 3 | 2014 |
| Air Navigation F/A 18 E/F/G DT/OT | 2 | 2010 | 4 | 2011 |
| Air Navigation GAS-1 Option 2010 | 2 | 2010 | 2 | 2010 |
| Air Navigation ADAP Option 2010 | 2 | 2010 | 2 | 2010 |
| Air Navigation MH-53E Installations | 3 | 2010 | 4 | 2013 |
| Air Navigation GAS-1 Option 2011 | 2 | 2011 | 2 | 2011 |
| Air Navigation ADAP Option 2011 | 2 | 2011 | 2 | 2011 |
| Air Navigation Conformal Antenna (C-CRPA) Production Award | 2 | 2011 | 2 | 2011 |
| Air Navigation GAS-1 Option 2012 | 2 | 2012 | 2 | 2012 |
| Air Navigation ADAP Option 2012 | 2 | 2012 | 2 | 2012 |
| Air Navigation C-CRPA Option 2012 | 2 | 2012 | 2 | 2012 |
| Air Navigation F/A-18 E/F/G Installations | 2 | 2012 | 4 | 2016 |
| Air Navigation GAS-1 Option 2013 | 2 | 2013 | 2 | 2013 |
| Air Navigation ADAP Option 2013 | 2 | 2013 | 2 | 2013 |
| Air Navigation C-CRPA Option 2013 | 2 | 2013 | 2 | 2013 |
| Air Navigation GAS-1 Option 2014 | 2 | 2014 | 2 | 2014 |
| Air Navigation ADAP Option 2014 | 2 | 2014 | 2 | 2014 |
| Air Navigation C-CRPA Option 2014 | 2 | 2014 | 2 | 2014 |
| Air Navigation GAS-1 Option 2015 | 2 | 2015 | 2 | 2015 |
| Air Navigation ADAP Option 2015 | 2 | 2015 | 2 | 2015 |

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604777N: <i>Navigation/Id System</i> | PROJECT 0921: <i>NAVSTAR GPS Equipment</i> |

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Air Navigation C-CRPA Option 2015 | 2 | 2015 | 2 | 2015 |
| Air Navigation GAS-1 Option 2016 | 2 | 2016 | 2 | 2016 |
| Air Navigation ADAP Option 2016 | 2 | 2016 | 2 | 2016 |
| Air Navigation C-CRPA Option 2016 | 2 | 2016 | 2 | 2016 |
| Sea Navigation Increment 1 (GAS-1) Installations | 1 | 2010 | 3 | 2010 |
| Sea Navigation Increment 2 (ADAP) DT/OA | 1 | 2010 | 2 | 2010 |
| Sea Navigation Increment 2 (ADAP) M/S C | 2 | 2010 | 2 | 2010 |
| Sea Navigation Increment 2 (ADAP) DT/OT | 4 | 2010 | 2 | 2011 |
| Sea Navigation Increment 3 (Sub A/J) AoA / Development | 1 | 2011 | 4 | 2015 |
| Sea Navigation Increment 2 (ADAP) FRP | 2 | 2011 | 2 | 2011 |
| Sea Navigation Increment 2 (ADAP) Installations | 2 | 2011 | 4 | 2016 |
| Sea Navigation Increment 2 (ADAP) IOC | 3 | 2011 | 3 | 2011 |
| Sea Navigation Increment 2 (ADAP) CVN DT | 3 | 2011 | 3 | 2011 |
| Sea Navigation Increment 2 (ADAP) CG DT | 4 | 2011 | 4 | 2011 |
| Sea Navigation Increment 3 (Sub A/J) M/S B | 2 | 2012 | 2 | 2012 |
| Sea Navigation Increment 2 (ADAP) LHA DT | 1 | 2013 | 1 | 2013 |
| Sea Navigation Increment 2 (ADAP) LPD DT | 3 | 2013 | 3 | 2013 |
| Sea Navigation Increment 3 (Sub A/J) DT/OA | 4 | 2013 | 2 | 2014 |
| Sea Navigation Increment 3 (Sub A/J) M/S C LRIP | 2 | 2014 | 2 | 2014 |
| Sea Navigation Increment 3 (Sub A/J) DT/OT | 4 | 2014 | 2 | 2015 |
| Sea Navigation Increment 3 (Sub A/J) Installations | 1 | 2015 | 4 | 2016 |
| Sea Navigation Increment 3 (Sub A/J) FRP | 2 | 2015 | 2 | 2015 |
| Sea Navigation Increment 3 (Sub A/J) IOC | 4 | 2015 | 4 | 2015 |
| GPNTS AS | 3 | 2010 | 3 | 2010 |

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604777N: <i>Navigation/Id System</i> | PROJECT 0921: <i>NAVSTAR GPS Equipment</i> |

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| GPNTS RFP Release | 4 | 2010 | 4 | 2010 |
| GPNTS Increment 1 TEMP | 4 | 2010 | 4 | 2010 |
| GPNTS INCREMENT 1 MS B | 1 | 2011 | 1 | 2011 |
| GPNTS APB | 1 | 2011 | 1 | 2011 |
| GPNTS AP | 1 | 2011 | 1 | 2011 |
| GPNTS Increment 1 Award | 2 | 2011 | 2 | 2011 |
| GPNTS Post PDR Assessment | 1 | 2012 | 1 | 2012 |
| GPNTS PDR | 1 | 2012 | 1 | 2012 |
| GPNTS Contract Order 1st Qtr | 1 | 2012 | 1 | 2012 |
| GPNTS Contract Order 4th Qtr | 4 | 2012 | 4 | 2012 |
| GPNTS Increment 1 Integrated Test 1st Qtr | 1 | 2013 | 1 | 2013 |
| GPNTS CDR | 2 | 2013 | 2 | 2013 |
| GPNTS Increment 1 Integrated Test 4th Qtr | 4 | 2013 | 4 | 2013 |
| GPNTS Increment 1 EDM Delivery | 1 | 2014 | 1 | 2014 |
| GPNTS INCREMENT 2 MS B Prep Activities | 1 | 2015 | 1 | 2015 |
| GPNTS MS C | 1 | 2015 | 1 | 2015 |
| GPNTS M/S C LRIP | 2 | 2015 | 2 | 2015 |
| GPNTS Increment 1 OTRR | 3 | 2015 | 3 | 2015 |
| GPNTS Increment 1 Tech Eval | 4 | 2015 | 4 | 2015 |
| GPNTS Increment 1 IOT&E | 1 | 2016 | 1 | 2016 |
| GPNTS Increment 1 JITC Testing | 1 | 2016 | 1 | 2016 |
| GPNTS IOC | 2 | 2016 | 2 | 2016 |
| GPNTS FRP DR | 3 | 2016 | 3 | 2016 |
| GPNTS Increment 1 FRP Option A | 3 | 2016 | 3 | 2016 |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604777N: <i>Navigation/Id System</i> | PROJECT 1253: <i>Combat Ident System</i> |
|---|--|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|----------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 1253: <i>Combat Ident System</i> | 29.324 | 36.483 | 22.312 | - | 22.312 | 17.068 | 14.125 | 9.301 | 13.230 | Continuing | Continuing |
| Quantity of RDT&E Articles | 24 | 0 | 11 | 0 | 11 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

In 1995, the Under Secretary of Defense (Acquisition and Technology)/Vice Chairman, Joint Chiefs of Staff (USD(A7T)/VCJCS) tasked the Services to develop a high-level plan and long-range strategy for migrating to new Mark XII equipment. The services were also tasked to work with participating North Atlantic Treaty Organization (NATO) Allies to develop a new Mark XII waveform and document it in NATO Standard Agreement (STANAG). The Navy took the lead in a waveform development effort conducted in coordination with a five nation Technical Working Group (TWG), supported by Joint Services and Industry. The Navy, in conjunction with the TWG, designed, developed, modeled, and tested a new waveform - Mark XIIA Mode 5. A separate five nation Communications Security group, led by the National Security Administration, developed a new cryptographic algorithm and associated cryptographic equipment interoperability requirements specification, STANAG 4193, Part V has been ratified and promulgated to all NATO nations, and Part VI was approved for promulgation in January 2002.

In August 2003 the Navy Mark XIIA Mode 5 program was approved for entry in Systems Development and Demonstration phase with approval to develop prototypes. In July 2006, the Navy Mark XIIA Mode 5 program was approved for entry into the Production and Deployment Phase and Low Rate Initial Production. In March 2007, Joint Requirements Oversight Council Memorandum (047-07) endorsed a Mode 5 Joint Initial Operational Capability (IOC) in FY14 and Joint Full Operational Capability in 2020. A Program Deviation Report was submitted in July 2009 reporting a schedule breach to Operational Evaluation and IOC due to joint asset participations and on-going resolution of Developmental Test (DT) deficiencies. The Initial Operational Test and Evaluation is replanned for FY2011 with additional DT events planned in FY10 to address system-of-system Operational Assessment (OA) deficiencies.

RDT&E articles include Mode 5 cryptographic modules and associated hardware and software changes, AN/APX-123, AN/APX-119, and AN/APX-111. These RDT&E units are to support hardware, software, and integration efforts to host systems on remaining aircraft Type/Model/Series, including AH-1Z/UH-1Y, E-2D, MH-60R/S, MV-22, KC-130J, and F/A-18E/F and EA-18G.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|--|---------|---------|---------|
| Title: Mode 5 prototype hardware, cryptographic module | 18.681 | 21.632 | 15.233 |
| Articles: | 24 | 0 | 11 |
| Description: Perform development of kits for installation into existing fleet assets including AN/UPX-37/41C Interrogator, AN/APX-118/123 Common Digital Transponder, and AN/APX-111 Combined Interrogator Transponder. Repair and correct deficiencies identified during testing and procure low rate initial production (LRIP) units (OPN, APN5, and RDTE) to support testing and platform integration. LRIP units include Mode 5 cryptographic module install kits for AN/UPX-37/41C, AN/APX-118/123, AN/APX-119, and AN/UPX-24 with associated hardware and software changes to the host boxes. Perform | | | |

UNCLASSIFIED

| | | | | |
|---|--|--|----------------|----------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604777N: <i>Navigation/Id System</i> | PROJECT 1253: <i>Combat Ident System</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| platform integration efforts for the AN/UPX-37/41C Interrogator, AN/APX-118/123 Common Digital Transponder, AN/APX-119 Transponder, and AN/APX-111 Combined Interrogator Transponder. FY 2010 Accomplishments: Procured AN/APX-123 for MV-22 test aircraft, AN/APX-119 units for labs, and F/A-18E/F AN/APX-111 lab and test assets. Initiated integration on MV-22 aircraft. Initiated development of Mode 5 kit for the AN/APX-111 and software development integration into the F/A-18E/F and EA-18G. FY 2011 Plans: Continue integration in MV-22, F/A-18E/F and EA-18G aircraft. FY 2012 Plans: Continue integration in MV-22, F/A-18E/F and EA-18G aircraft. | | | | |
| Title: Mode 5 systems Engineering and Integrated Logistics Support (ILS) Description: Performed systems engineering and analysis in support of Mode 5 hardware/software development on AN/UPX-37/41C Interrogator, AN/APX-118/123 Common Digital Transponder, AN/APX-119 Transponder, AN/APX-111 Combined Interrogator Transponder, Cryptographic Module, Mode 5 Engineering Test Equipment, and Mode 5 support equipment. The Cryptographic Module included, but is not limited to, activities such as ILS, Design and Engineering Studies and Analysis, and Configuration Management performed as the Lead Service. FY 2010 Accomplishments: Continued systems engineering and analysis on multiple aircraft platforms including MH-60R/S, AH-1Z/UH-1Y, and E-2D. Corrected deficiencies from FY09 OA, and addressed AIMS 03-1000A Specification Changes. FY 2011 Plans: Continue systems engineering and analysis for deficiency correction, and implementation of Mode 5 in AN/APX-111 equipment. Initiate systems engineering for F/A-18E/F, EA-18G, E-2D and MV-22 aircraft. FY 2012 Plans: Continue systems engineering and analysis for MV-22, F/A-18E/F and EA-18G aircraft. | | Articles: 3.397 0 | 7.786 0 | 2.413 0 |
| Title: Mode 5 Upgrade DT & OT | | Articles: 7.246 0 | 7.065 0 | 4.666 0 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604777N: <i>Navigation/Id System</i> | PROJECT 1253: <i>Combat Ident System</i> |
|---|--|--|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|--|---------|---------|---------|
| <p>Description: Perform Mode 5 developmental and operational test phases for AN/UPX-37/41C Interrogator, AN/APX-118/123 Common Transponder, AN/APX-119 Transponder, and AN/APX-111 Combined Interrogator Transponder.</p> <p>FY 2010 Accomplishments: Initiated DT testing for E-2D aircraft. Performed regression testing for OA deficiency correction for MH-60R/S, AH-1Z/UH-1Y aircraft and AN/APX-123/UPX-41 equipment.</p> <p>FY 2011 Plans: Conduct Integrated testing and Operational Testing for the AN/APX-123 on the MH-60R/S, AH-1Z/UH-1Y, E-2D, and AN/UPX-41C.</p> <p>FY 2012 Plans: Conduct initial lab testing on Mode 5 AN/APX-111, integrated testing on the MV-22 and operational testing on the E-2D and MV-22.</p> | | | |
| Accomplishments/Planned Programs Subtotals | 29.324 | 36.483 | 22.312 |

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | FY 2010 | FY 2011 | FY 2012 <u>Base</u> | FY 2012 <u>OCO</u> | FY 2012 <u>Total</u> | FY 2013 | FY 2014 | FY 2015 | FY 2016 | <u>Cost To Complete</u> | <u>Total Cost</u> |
|---|---------|---------|------------------------|-----------------------|-------------------------|---------|---------|---------|---------|-------------------------|-------------------|
| • OPN/2851: <i>Identification Systems</i> | 37.563 | 29.572 | 33.170 | 0.000 | 33.170 | 35.662 | 39.702 | 39.545 | 36.208 | Continuing | Continuing |
| • APN/0582: <i>Identification Systems</i> | 24.051 | 20.397 | 37.330 | 0.000 | 37.330 | 38.408 | 40.854 | 45.964 | 54.944 | Continuing | Continuing |

D. Acquisition Strategy

The Acquisition Strategy is to develop Mode 5 Engineering Change Proposals for modern Mark XII Identification Friend or Foe equipment and integrate into all Navy Combat Weapons systems platforms and transition the Navy's Cooperative Identification Capability to Mode 5.

E. Performance Metrics

Award LRIP 5 Contract Option in 2nd Quarter FY 2010 and LRIP 6 Contract Option in 1st Quarter FY 2011. Complete Operational Test Readiness Review (OTRR) in 3rd Quarter FY 2011. Begin Full Rate Production and achieve Initial Operational Capability in FY 2012.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604777N: <i>Navigation/Id System</i> | PROJECT 1253: <i>Combat Ident System</i> |
|---|--|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Primary Hardware Development | C/FFP | Lockheed:Owego, NY | 3.229 | 0.125 | May 2011 | - | | - | | - | 3.640 | 6.994 | 6.994 |
| Primary Hardware Development | WR | NAWCWD:China Lake CA | 6.848 | 6.179 | May 2011 | 2.957 | May 2012 | - | | 2.957 | 20.042 | 36.026 | 36.028 |
| Primary Hardware Development | SS/CPFF | Northrup Grumman:Bethpage NY | 3.886 | - | | - | | - | | - | 1.701 | 5.587 | 5.587 |
| Primary Hardware Development | Various | BAE:Greenlawn NY | 26.343 | - | | 0.479 | Apr 2012 | - | | 0.479 | 0.597 | 27.419 | 27.419 |
| Primary Hardware Development | Various | Boeing:Philiadelphia, PA | 4.394 | 2.289 | Jun 2011 | 2.067 | Jun 2012 | - | | 2.067 | 0.639 | 9.389 | 9.389 |
| Primary Hardware Development | Various | Raytheon:Towson, MD | 1.027 | 0.137 | Mar 2011 | 0.134 | Mar 2012 | - | | 0.134 | 0.277 | 1.575 | 1.575 |
| Primary Hardware Development | Various | Boeing:St Louis. MO | 9.172 | 12.902 | Jun 2011 | 9.596 | Jun 2012 | - | | 9.596 | 22.468 | 54.138 | 54.138 |
| Systems Engineering | WR | NAWCAD:PAX River, MD | 7.383 | 4.288 | Nov 2010 | 1.607 | Nov 2011 | - | | 1.607 | 7.131 | 20.409 | |
| Systems Engineering | WR | NAWCAD:St Inigoes, MD | 11.145 | 2.312 | Nov 2010 | 0.134 | Nov 2011 | - | | 0.134 | 2.121 | 15.712 | |
| Systems Engineering | WR | NAWCWD:China Lake, CA | 0.600 | - | | - | | - | | - | 0.000 | 0.600 | |
| Subtotal | | | 74.027 | 28.232 | | 16.974 | | - | | 16.974 | 58.616 | 177.849 | |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| ILS | Various | Various:Various | 2.366 | 1.186 | Nov 2010 | 0.672 | Nov 2011 | - | | 0.672 | 0.000 | 4.224 | |
| Software Development | Various | Various:Various | 2.708 | - | | - | | - | | - | 0.000 | 2.708 | |
| Technical data | Various | Various:Various | 0.053 | - | | - | | - | | - | 0.000 | 0.053 | |
| Subtotal | | | 5.127 | 1.186 | | 0.672 | | - | | 0.672 | 0.000 | 6.985 | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604777N: <i>Navigation/Id System</i> | PROJECT 1253: <i>Combat Ident System</i> |
|---|--|--|

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Developmental T & E | WR | NAWCAD:PAX River MD | 10.642 | 3.970 | Nov 2010 | 4.383 | Nov 2011 | - | | 4.383 | 0.000 | 18.995 | |
| Operational T & E | WR | NAWCAD:PAX River MD | 14.788 | 1.645 | Nov 2010 | 0.283 | Nov 2011 | - | | 0.283 | 0.000 | 16.716 | |
| Test Assets | Various | Various:Various | 1.946 | 1.450 | Nov 2010 | - | | - | | - | 0.000 | 3.396 | |
| Subtotal | | | 27.376 | 7.065 | | 4.666 | | - | | 4.666 | 0.000 | 39.107 | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Contract Engineering Support | Various | Various:Various | 0.450 | - | | - | | - | | - | 0.000 | 0.450 | 0.450 |
| Government Engineering Support | Various | Various:Various | 1.811 | - | | - | | - | | - | 0.000 | 1.811 | |
| Program Management Support | Various | Various:Various | 1.961 | - | | - | | - | | - | 0.000 | 1.961 | |
| ETS (Non-FFRDC) | WR | Various:PAX River MD | 0.174 | - | | - | | - | | - | 0.000 | 0.174 | |
| Subtotal | | | 4.396 | - | | - | | - | | - | 0.000 | 4.396 | |

| | Total Prior Years Cost | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|------------------------|---------|--------------|-------------|---------------|------------------|------------|--------------------------|
| Project Cost Totals | | 110.926 | 36.483 | 22.312 | - | 22.312 | 58.616 | 228.337 |

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0604777N: *Navigation/Id System*

PROJECT

1253: *Combat Ident System*

| Combat Identification Systems | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | | | | | | | | | |
|----------------------------------|----------------------------|----|----------------------------|------------------------|---------|----|----|----|------------|----|----|----|---------|----|----|----|---------|----|----|----|-----------------------------|----|----|----|---------|----|----|----|----|----|----|----|--|--|--|--|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | | | | |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Milestones | | | | | | | | | FRPDR ◆ | | | | | | | | | | | | Mode 5 Joint IOC ▲ | | | | | | | | | | | | | | | |
| Systems Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hardware Development | Production Line Insertion | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | SCD | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | AN/APX-111 Upgrade ▲ | AN/APX 119 Int ▲ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Software Development Integration | Host Platform Integrations | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reviews | OTRR | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test and Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Technical Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operational Evaluation | | | IT Regression Test | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contract Awards | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Systems Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0604777N - 1253

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604777N: <i>Navigation/Id System</i> | PROJECT 1253: <i>Combat Ident System</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Combat Identification Systems | | | | |
| Acquisition Milestones: Milestones: Full Rate Production Decision Review (FRPDR) | 1 | 2012 | 1 | 2012 |
| Acquisition Milestones: Milestones: IOC | 1 | 2012 | 1 | 2012 |
| Acquisition Milestones: Milestones: Mode 5 Joint IOC | 4 | 2014 | 4 | 2014 |
| Systems Development: Hardware Development: Production Line Insertion | 1 | 2010 | 4 | 2016 |
| Systems Development: Hardware Development: Prepare & Evaluate ECPs/SCDs | 1 | 2010 | 4 | 2016 |
| Systems Development: Hardware Development: AN/APX-111 Upgrade/Integration Begins | 3 | 2010 | 3 | 2010 |
| Systems Development: Hardware Development: AN/APX 119 Integration Begins | 4 | 2010 | 4 | 2010 |
| Systems Development: Hardware Development: Mode 5 Spiral Development | 2 | 2015 | 2 | 2015 |
| Systems Development: Software Development Integration: Host Platform Integrations | 1 | 2010 | 4 | 2016 |
| Systems Development: Reviews: Operational Test Readiness Review (OTRR) | 3 | 2011 | 3 | 2011 |
| Test and Evaluation: Operational Evaluation: IT Regression Test | 3 | 2010 | 4 | 2010 |
| Test and Evaluation: Operational Evaluation: OT-C2 (IOT&E) | 4 | 2011 | 4 | 2011 |
| Test and Evaluation: Operational Evaluation: IOT&E Outbrief | 1 | 2012 | 1 | 2012 |
| Test and Evaluation: Operational Evaluation: Follow-on Test and Evaluation | 1 | 2012 | 4 | 2016 |
| Production Milestones: Contract Awards: LRIP 5 Contract Award (OPN, APN5, RDTEN) | 2 | 2010 | 2 | 2010 |
| Production Milestones: Contract Awards: LRIP 6 Contract Award (OPN, APN5, RDTEN) | 1 | 2011 | 1 | 2011 |
| Production Milestones: Contract Awards: FRP Contract Award | 2 | 2012 | 2 | 2012 |
| Deliveries: Low-Rate Initial Production (LRIP) Deliveries (DI,CXP) (OPN, APN5, RDTEN) | 1 | 2010 | 2 | 2013 |

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604777N: <i>Navigation/Id System</i> | PROJECT 1253: <i>Combat Ident System</i> |

| Events by Sub Project | Start | | End | |
|----------------------------|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Deliveries: FRP Deliveries | 2 | 2013 | 4 | 2016 |

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | | | | R-1 ITEM NOMENCLATURE | | | | | | | |
|---|----------------|----------------|---------------------|---|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | PE 0604800M: <i>(U)Joint Strike Fighter (JSF) - EMD</i> | | | | | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| Total Program Element | - | 667.916 | 670.723 | - | 670.723 | 741.600 | 703.575 | 585.759 | 459.571 | Continuing | Continuing |
| 2262: <i>Joint Strike Fighter EMD STOVL</i> | - | 667.916 | 670.723 | - | 670.723 | 741.600 | 703.575 | 585.759 | 459.571 | Continuing | Continuing |

Note

This Program Element (PE) continues development efforts budgeted in PE 0603800N since FY 02. Effective with the President's Budget FY 11 budget submission, the F-35B United States Marine Corps (USMC) Short Take-off Vertical Landing (STOVL) and F-35C United States Navy (USN) Carrier Variant (CV) budgets are reported against separate budget line items and PEs. Starting in FY 11, the F-35B budget is reported against the newly created PE 0604800M. The F-35C USN budget continues to report under PE 0604800N.

A. Mission Description and Budget Item Justification

The F-35 Lightning II Joint Strike Fighter (JSF) program will develop and field a family of aircraft that meets the needs of the USN, USAF, USMC, and allies, with maximum commonality among the variants, consistent with National Disclosure Policy, to minimize life cycle costs. This is a joint program with no executive service. Navy and Air Force each provide approximately equal shares of annual funding to the program. The United Kingdom, (seven) other International countries, and (four) Foreign Military Sales cases are participants in the JSF Program. The program combines USN, USMC, USAF, and International Partner funding. The top line PE cost reflects USMC F-35B Short Take-Off and Vertical Landing (STOVL) budgetary information only. However, funding at the accomplishment/planned program level is reported in total (all services and partners) as the activities support all aircraft variants. Within the Navy, funding is a roughly equal contribution of annual funding by the USN and USMC.

Funding under this USN program element supports core F-35 System Development and Demonstration (SDD) objectives and aircraft Follow-on Development efforts.

The overall SDD Budget funds a total quantity of 20 RDT&E test articles to include 6 ground test articles and 14 flight test articles for Navy and Air Force use. The following fiscal year phasing of the test articles reflects the scheduled first flight of each flight test asset or production line roll out of each ground test asset:

- FY07: 1 Conventional Take Off and Landing (CTOL) flight test article
- FY08: 1 Short Take Off and Vertical Landing (STOVL) flight test article, 1 STOVL ground test
- FY09: 1 STOVL flight test article, 2 CTOL ground test articles
- FY10: 6 flight test articles (3 CTOL, 2 STOVL, 1 Carrier Variant (CV)), 3 ground test articles (1 STOVL, 2 CV)
- FY11: 4 flight test articles (1 CTOL, 1 STOVL, 2 CV)
- FY12: 1 flight test article (CV)

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604800M: <i>(U)Joint Strike Fighter (JSF) - EMD</i> |
|---|---|

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | - | 667.916 | 594.004 | - | 594.004 |
| Current President's Budget | - | 667.916 | 670.723 | - | 670.723 |
| Total Adjustments | - | - | 76.719 | - | 76.719 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | - | - | | | |
| • SBIR/STTR Transfer | - | - | | | |
| • Program Adjustments | - | - | 88.526 | - | 88.526 |
| • Rate/Misc Adjustments | - | - | -11.807 | - | -11.807 |

Change Summary Explanation

Financial: Financial adjustments reflect increased funding associated with the 2-year extension of SDD Program.

Schedule: Significant changes to schedule reflect program restructure resulting from a critical Nunn-McCurdy breach and Acquisition Decision Memorandum guidance (dated 2 June 2010) as well as subsequent two-year extension of program to accommodate completion of Development Testing/Operational Testing. Schedule now includes detail for Test and Evaluation of JSF variants. Specific slips associated with this restructure include: CV 1st flight occurred in 3rd Quarter FY 10, Block 2 Operational Test & Evaluation to conclude in 4th Quarter FY 15, and Block 3 Operational Test & Evaluation to conclude 2nd Quarter 2016. Performance Based Logistics (PBL) (increasing scale and fidelity thru MYP), Follow-on Development, and Dual Capability Aircraft Integration have been added to the schedule.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604800M: <i>(U)Joint Strike Fighter (JSF) - EMD</i> | PROJECT 2262: <i>Joint Strike Fighter EMD STOVL</i> |
|---|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 2262: <i>Joint Strike Fighter EMD STOVL</i> | - | 667.916 | 670.723 | - | 670.723 | 741.600 | 703.575 | 585.759 | 459.571 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

Note

This Program Element (PE) continues development efforts budgeted in PE 0603800N since FY 02.

Articles are no longer shown in the "Quantity of RDT&E Articles" section of the budget in FY 10, FY 11, & FY 12 as all articles were started in prior years. In the previous budgets the articles have been shown in the budget based on year first flight when they should have been shown based on when work was first commenced on the article. FY 10 flight test articles were started in FY 07. FY11 flight test articles were started in FY 08. FY12 flight test article was started in FY 09.

A. Mission Description and Budget Item Justification

The F-35 Lightning II Joint Strike Fighter (JSF) program will develop and field a family of aircraft that meets the needs of the USN, USAF, USMC, and allies, with maximum commonality among the variants, consistent with National Disclosure Policy, to minimize life cycle costs. This is a joint program with no executive service. Navy and Air Force each provide approximately equal shares of annual funding to the program. The United Kingdom, (seven) other International countries, and (four) Foreign Military Sales cases are participants in the JSF Program. The program combines USN, USMC, USAF, and International Partner funding. The top line PE (R-2) cost reflects USMC F-35B Short Take-Off and Vertical Landing (STOVL) budgetary information only. However, funding at the accomplishment/planned program level (R-2A) is reported in total (all services and partners) as the activities support all aircraft variants. Within the Navy, funding is a roughly equal contribution of annual funding by the USN and USMC.

The overall System Development and Demonstration (SDD) Budget funds a total quantity of 20 RDT&E test articles to include 6 ground test articles and 14 flight test articles for Navy and Air Force use. The following fiscal year phasing of the test articles reflects the scheduled first flight of each flight test asset or production line roll out of each ground test asset:

- FY07: 1 Conventional Take Off and Landing (CTOL) flight test article
- FY08: 1 Short Take Off and Vertical Landing (STOVL) flight test article, 1 STOVL ground test
- FY09: 1 STOVL flight test article, 2 CTOL ground test articles
- FY10: 6 flight test articles (3 CTOL, 2 STOVL, 1 Carrier Variant (CV)), 3 ground test articles (1 STOVL, 2 CV)
- FY11: 4 flight test articles (1 CTOL, 1 STOVL, 2 CV)
- FY12: 1 flight test article (CV)

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|---|-----------|-----------|-----------|
| Title: SDD | 2,836.180 | 1,648.472 | 1,751.553 |

UNCLASSIFIED

| | | | | |
|--|---|---|----------------|----------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604800M: <i>(U)Joint Strike Fighter (JSF) - EMD</i> | PROJECT 2262: <i>Joint Strike Fighter EMD STOVL</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| Articles: | | 0 | 0 | 0 |
| FY 2010 Accomplishments: Continued SDD execution of the Air System, with Lockheed Martin including International Commonality Effort which included airframe, vehicle systems, mission systems, autonomic logistics, systems engineering, and integrated test efforts. | | | | |
| FY 2011 Plans: Continue SDD execution of the Air System, with Lockheed Martin including International Commonality Effort which includes airframe, vehicle systems, mission systems, autonomic logistics, systems engineering, and integrated test efforts. | | | | |
| FY 2012 Plans: Continue SDD execution of the Air System, with Lockheed Martin including International Commonality Effort which includes airframe, vehicle systems, mission systems, autonomic logistics, systems engineering, and integrated test efforts. | | | | |
| Title: F135 Propulsion System | | 458.329 | 360.000 | 360.000 |
| Articles: | | 0 | 0 | 0 |
| FY 2010 Accomplishments: Continued SDD execution of the F135 Propulsion System with Pratt & Whitney that included engine testing, autonomic logistics, integration and performing technology maturation efforts. | | | | |
| FY 2011 Plans: Continue SDD execution of the F135 Propulsion System with Pratt & Whitney to include engine testing, autonomic logistics, integration and performing technology maturation efforts. | | | | |
| FY 2012 Plans: Continue SDD execution of the F135 Propulsion System with Pratt & Whitney to include engine testing, autonomic logistics, integration and performing technology maturation efforts. | | | | |
| Title: F136 Propulsion System | | 415.918 | - | - |
| Articles: | | 0 | | |
| FY 2010 Accomplishments: Congressional Add funding for continued F136 Propulsion System development effort (that appears in the PU: 9999 section of the DoN 2012 budget submission for PE 0604800N) by the General Electric/Rolls Royce Fighter Engine team (GE/RR FTE). | | | | |
| Title: System Engineering | | 28.176 | 39.264 | 45.457 |
| Articles: | | 0 | 0 | 0 |
| FY 2010 Accomplishments: | | | | |

UNCLASSIFIED

| | | | | |
|---|---|---|----------------|----------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604800M: <i>(U)Joint Strike Fighter (JSF) - EMD</i> | PROJECT 2262: <i>Joint Strike Fighter EMD STOVL</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| Continued SDD Systems Engineering which included systems operations requirements analysis, program integration, requirements integration, and interoperability support. FY 2011 Plans: Continue SDD Systems Engineering including systems operations requirements analysis, program integration, requirements integration, and interoperability support. FY 2012 Plans: Continue SDD Systems Engineering including systems operations requirements analysis, program integration, requirements integration, and interoperability support. | | | | |
| Title: Development Test and Evaluation FY 2010 Accomplishments: Continued government Development Test and Evaluation (DT&E)/Operational Evaluation as the DT fleet of test aircraft received six flight test and three ground assets. FY10 tasks originally supported a Block I and Block II mission systems DT&E but due to a restructured test schedule only Block 0.5 tests were completed and testing to support initial Low Rate Initial Production (LRIP) 1 Training was continued on Block 1 software. Flight sciences testing on CTOL variant was completed to meet initial LRIP air vehicle performance envelope requirements, and envelope expansion testing continued on all three variants to meet their initial LRIP envelope requirements and to support mission systems testing. Elements of DT&E included preparation for flight testing, weapons integration testing, and component capabilities testing. FY 2011 Plans: Continue government DT&E/Operational Evaluation in support of envelope expansion, LRIP aircraft deliveries, and initial service training. Continue flight sciences testing of CTOL, STOVL, and CV variants to expand the air vehicle envelope to support mission systems testing. Commence and complete Block 1 Mission Systems flight test, and commence Block 2 flight test. Elements of DT&E included preparation for flight testing, weapons integration testing, and component capabilities testing. FY 2012 Plans: Continue government DT&E/Operational Testing in support of test aircraft. Continue flight sciences testing of CTOL, STOVL, and CV variants to expand the air vehicle envelope to support mission systems testing to include initial Block 2B. Elements of DT&E included preparation for flight testing, weapons integration testing, and component capabilities testing. | | 149.547 0 | 281.000 0 | 323.150 0 |
| Title: Development Support FY 2010 Accomplishments: | | 121.579 0 | 158.291 0 | 237.128 0 |

UNCLASSIFIED

| | | | | |
|--|---|---|----------------|----------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604800M: <i>(U)Joint Strike Fighter (JSF) - EMD</i> | PROJECT 2262: <i>Joint Strike Fighter EMD STOVL</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| Continued SDD Support efforts for airframe, air vehicle systems, mission systems, weapons integration, mission support, and autonomic logistics development activities. FY 2011 Plans: Continue SDD Support efforts for airframe, air vehicle systems, mission systems, weapons integration, mission support, and autonomic logistics development activities. FY 2012 Plans: Continue SDD Support efforts for airframe, air vehicle systems, mission systems, weapons integration, mission support, and autonomic logistics development activities. | | | | |
| Title: Program Management Support FY 2010 Accomplishments: Continued management support services, travel, engineering technical services, and studies analyses and evaluations in support of program objectives. FY 2011 Plans: Continue management support services, travel, engineering technical services, and studies analyses and evaluations in support of program objectives. FY 2012 Plans: Continue management support services, travel, engineering technical services, and studies analyses and evaluations in support of program objectives. | | 71.478 0 | 75.478 0 | 103.447 0 |
| Title: Follow-On Development FY 2011 Plans: Initiate follow-on development Block IV capabilities to include logistics, weapons, security, sensors, survivability, and upgrades required to support F-35 variants. Efforts will support aircraft and engine delivery to services and partner nations commencing in FY 15 and will integrate urgent operationally relevant requirements post-Initial Operational Capability (IOC). FY 2012 Plans: | | - | 57.724 0 | 37.874 0 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604800M: <i>(U)Joint Strike Fighter (JSF) - EMD</i> | PROJECT 2262: <i>Joint Strike Fighter EMD STOVL</i> |
|---|---|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|---|----------------|----------------|----------------|
| Continue follow-on development Block IV capabilities to include logistics, weapons, security, sensors, survivability, and upgrades required to support F-35 variants. Efforts will support aircraft and engine delivery to services and partner nations commencing in FY 15 and will integrate urgent operationally relevant requirements post-IOC. | | | |
| Accomplishments/Planned Programs Subtotals | 4,081.207 | 2,620.229 | 2,858.609 |
| Navy | 1,672.067 | 707.791 | 677.486 |
| Air Force | 2,033.521 | 1,043.610 | 1,387.926 |
| International | 161.511 | 200.912 | 122.474 |
| Congressional Add | 214.108 | - | - |
| Navy Subtotals | 0.000 | 667.916 | 670.723 |

| C. Other Program Funding Summary (\$ in Millions) | | | | | | | | | | | |
|--|----------------|----------------|-------------------------|------------------------|--------------------------|----------------|----------------|----------------|----------------|-----------------------------|-------------------|
| Line Item | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| • RDTEF/0604800F: <i>Joint Strike Fighter</i> | 2,033.521 | 1,043.610 | 1,387.926 | 0.000 | 1,387.926 | 1,198.293 | 933.452 | 608.211 | 361.064 | 0.000 | 22,029.126 |
| • International: <i>International Partner (SDD/FOD)</i> | 161.511 | 200.912 | 122.474 | 0.000 | 122.474 | 144.220 | 2.800 | 0.000 | 0.000 | 0.000 | 5,108.601 |
| • APF/0207142F: <i>F-35 Joint Strike Strike Fighter</i> | 2,357.949 | 4,191.142 | 3,664.092 | 0.000 | 3,664.092 | 3,764.260 | 5,285.022 | 5,985.244 | 7,703.525 | 147,239.170 | 181,851.032 |
| • RDTEF/0604800N: <i>JT Strike Fighter (JSF) - EMD</i> | 1,886.175 | 707.791 | 677.486 | 0.000 | 677.486 | 744.516 | 706.512 | 588.704 | 462.301 | 0.000 | 20,155.035 |
| • APN/0152: <i>F-35 Joint Strike Fighter STOVL</i> | 0.000 | 2,576.142 | 1,259.162 | 0.000 | 1,259.162 | 1,296.310 | 1,379.916 | 1,865.005 | 2,709.859 | 24,536.751 | 35,623.145 |
| • APN/0605B: <i>F-35 Joint Strike Fighter STOVL Spares</i> | 0.000 | 164.135 | 66.430 | 0.000 | 66.430 | 33.290 | 63.484 | 124.791 | 224.075 | 2,143.575 | 2,819.780 |
| • APN/0147: <i>F-35 Joint Strike Fighter CV</i> | 4,449.336 | 1,886.988 | 1,720.762 | 0.000 | 1,720.762 | 2,405.858 | 2,429.364 | 2,952.444 | 2,790.723 | 25,972.535 | 47,648.943 |
| • APN/0605C: <i>F-35 Joint Strike Fighter CV Spares</i> | 248.184 | 107.030 | 86.902 | 0.000 | 86.902 | 101.272 | 331.063 | 313.699 | 91.696 | 1,777.785 | 3,240.139 |
| • OPN/4265: <i>Other Aviation Support Equipment</i> | 3.017 | 5.410 | 5.665 | 0.000 | 5.665 | 3.848 | 4.895 | 5.615 | 5.670 | 0.000 | 37.932 |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604800M: <i>(U)Joint Strike Fighter (JSF) - EMD</i> | PROJECT 2262: <i>Joint Strike Fighter EMD STOVL</i> |
|---|---|---|

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> <u>Base</u> | <u>FY 2012</u> <u>OCO</u> | <u>FY 2012</u> <u>Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
|---|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| • International 2: <i>International Procurement</i> | 727.462 | 733.662 | 1,372.790 | 0.000 | 1,372.790 | 3,010.270 | 4,791.820 | 7,367.040 | 6,817.100 | 0.000 | 24,820.144 |
| • AF MILCON 0207142: <i>USAF MILCON</i> | 67.529 | 139.640 | 31.050 | 0.000 | 31.050 | 89.000 | 72.000 | 69.050 | 65.000 | 0.000 | 533.269 |
| • APF: <i>USAF Modification Funding</i> | 0.000 | 0.000 | 123.936 | 0.000 | 123.936 | 0.000 | 0.000 | 0.000 | 0.000 | 25,972.535 | 26,096.471 |
| • FOD/0207142F: <i>USAF Follow-on Development</i> | 0.000 | 57.724 | 47.841 | 0.000 | 47.841 | 132.495 | 131.844 | 129.164 | 151.614 | 0.000 | 650.682 |
| • 0207142F,USAF Spares: <i>USAF Spares</i> | 129.296 | 263.573 | 151.469 | 0.000 | 151.469 | 322.076 | 340.956 | 508.599 | 770.495 | 1,777.785 | 4,325.345 |

D. Acquisition Strategy

A summary of the aquisition strategy for the F-35B and the F-35C follows.

Activities in the prior phase of JSF centered around three distinct objectives to provide a sound foundation for the start of SDD in Fall 2001:

- (1) facilitated the Services' development of fully validated, affordable operational requirements.
- (2) lowered risk by investing in and demonstrating key leveraging technologies that lowered the cost of development, production, and ownership.
- (3) demonstrated operational concepts.

Early warfighter and technologist interaction was an essential aspect of the requirements definition process. To an unprecedented degree the JSF Program used cost-performance trades early, as an integral part of the weapon system development process. The Services defined requirements through an iterative process, balancing weapon system capability against life cycle cost at every stage. Each iteration of requirements was provided to industry. They evolved their designs and provided cost data back to the warfighters. The warfighters evaluated trades and made decisions for the next iteration. This iterative process produced iterations of the Services' Joint Interim Requirements Documents in 1995, 1997, 1998 and culminated in the approved joint Operational Requirements Document in FY 00.

A sizable technology maturation effort was conducted to reduce risk and life cycle cost through technology maturation and demonstrations. The primary emphasis was on technologies identified as high payoff contributors to affordability, supportability, survivability, and lethality. Numerous demonstrations were accomplished to validate performance and life cycle cost impact to component, subsystem, and the total system.

In November 1996, contracts were awarded to Boeing and Lockheed Martin for Concept Demonstration Programs. These competing contractors built and flew concept demonstrator aircraft, conducted concept unique ground demonstrations, and refined their respective weapon system concepts. Specifically, Boeing and Lockheed Martin demonstrated commonality and modularity, STOVL hover and transition, and low speed handling qualities of their respective weapon system concepts. Pratt

UNCLASSIFIED

| | |
|--|----------------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | DATE: February 2011 |
|--|----------------------------|

| APPROPRIATION/BUDGET ACTIVITY | R-1 ITEM NOMENCLATURE | PROJECT |
|---|--|---|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | PE 0604800M: (U) <i>Joint Strike Fighter (JSF) - EMD</i> | 2262: <i>Joint Strike Fighter EMD STOVL</i> |

and Whitney provided propulsion hardware and engineering support. General Electric continued development of a second, interchangeable, engine for competition in production.

Following evaluation of proposals and a favorable Milestone B decision, the JSF Program entered SDD on 26 Oct 2001 with SDD contract awards to Lockheed Martin and Pratt & Whitney. The SDD plan reflected a block approach, based on open systems architecture, for accomplishing aircraft and weapons integration. General Electric continued propulsion development efforts through FY 09 when program funding ended.

Follow-on Development will continue the evolutionary approach of SDD by providing capability enhancements through an incremental methodology. The Joint Capabilities Integration and Development System and Defense Acquisition System shall provide the framework and basis for defining, managing and acquiring the envisioned F-35 enhancements. The plan for each follow-on increment will include all the development, integration and verification testing of those capabilities. Additionally, the non-recurring efforts for cut-in of retrofit, production and sustainment will be included. Retrofit planning will be based on upgrading all previously fielded aircraft to the latest increment in order to limit the number of configurations, thus reducing life cycle cost. Retrofit execution will be in accordance with the stakeholder's direction.

These follow-on development efforts will be procured via cost type contracts. It is anticipated that fee provisions will be used to target and motivate contractor performance. The new configurations will be incorporated into production and, if required by the U.S. Services or SDD International Partners, retrofitted to fielded aircraft under F-35 production and sustainment contracts. Similar to SDD, Basic Ordering Agreement and Indefinite Delivery/Indefinite Quantity contracts may be used for trade studies and analyses to supplement Follow-On requirements development.

The updated JSF Acquisition Strategy and program schedule were approved following the May 05 Defense Acquisition Board (DAB). The April 06 DAB authorized full funding for LRIP I procurement. USAF LRIP I Advance Procurement funding was awarded during FY 06, followed by the USAF Regular Procurement award in FY 07. USAF and DoN Advance Procurement funding for LRIP II was awarded during FY 07. USAF LRIP II full-funding contract award occurred in April 08. DoN LRIP II full funding contract was awarded in July 08, upon successful first flight of the DoN STOVL aircraft (in conventional flight mode). USAF and DoN Advance Procurement funding for LRIP III was awarded in May 08, LRIP III full funding was awarded in June 09. LRIP IV advance procurement was awarded in March 09 and full funding contract award occurred in early 4th Quarter FY 10. LRIP V advance procurement contract was awarded 3rd Quarter FY10. LRIP V full funding contract planned for 4th Quarter FY 11.

The F-35 Program experienced a Nunn-McCurdy breach during FY 10, was restructured for the President's Budget FY 11 budget, and was recertified by Office of the Secretary of Defense Aquisition Decision Memorandum (2 June 2010). Milestone B (granted in October 2001) was rescinded. As a result of a December 2010 Secretary of Defense decision, based on a JSF Technical Baseline Review (TBR), SDD was extended by 2 years and funding increased by \$4.6 billion to accommodate completion of DT/OT.

E. Performance Metrics

| | |
|---------------|------------------------------------|
| Combat Radius | |
| CTOL | Meets/Exceeds Tripwire Requirement |
| CV | Meets/Exceeds Tripwire Requirement |

UNCLASSIFIED

| | | |
|--|---|---|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604800M: <i>(U)Joint Strike Fighter (JSF) - EMD</i> | PROJECT 2262: <i>Joint Strike Fighter EMD STOVL</i> |
| <p>STOVL Meets/Exceeds Tripwire Requirement</p> <p>CV Recovery Maximum Approach Speed Meets/Exceeds Requirement In Tripwire Band</p> <p>STOVL Performance Flat Deck (High-High-High Profile Fuel) Meets/Exceeds Requirement In Tripwire Band Ski Jump (High-Medium-Medium-High Profile Fuel) Meets/Exceeds Requirement In Tripwire Band Vertical Landing Bring Back Meets/Exceeds Requirement In Tripwire Band</p> <p>Interoperability Net Ready Criteria- Meets/Exceeds Requirement In Tripwire Band</p> <p>Radio Frequency Signature Meets/Exceeds Tripwire Requirement</p> <p>Mission Reliability CTOL Meets/Exceeds Tripwire Requirement CV Exceeds Ord Objective STOVL USMC Meets/Exceeds Tripwire Requirement STOVL UK Meets/Exceeds Tripwire Requirement</p> <p>Sortie Generation Rate CTOL Meets/Exceeds Tripwire Requirement CV Meets/Exceeds Tripwire Requirement STOVL USMC Meets/Exceeds Tripwire Requirement STOVL UK Meets/Exceeds Tripwire Requirement</p> <p>Logistics Footprints C-17 CTOL Meets/Exceeds Tripwire Requirement STOVL USMC Meets/Exceeds Tripwire Requirement</p> <p>Logistics Footprint- Volume CV Exceeds Ord Objective STOVL USMC Meets/Exceeds Tripwire Requirement STOVL UK Meets/Exceeds Tripwire Requirement</p> | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy DATE: February 2011

| APPROPRIATION/BUDGET ACTIVITY | R-1 ITEM NOMENCLATURE | PROJECT |
|---|---|---|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | PE 0604800M: <i>(U)Joint Strike Fighter (JSF) - EMD</i> | 2262: <i>Joint Strike Fighter EMD STOVL</i> |

Logistics Footprint-Weight
CV Exceeds Ord Objective
STOVL USMC Exceeds Ord Objective
STOVL UK Meets/Exceeds Tripwire Requirement

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604800M: <i>(U)Joint Strike Fighter (JSF) - EMD</i> | PROJECT 2262: <i>Joint Strike Fighter EMD STOVL</i> |
|---|---|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Primary H/W Development - SDD | C/CPAF | Lockheed Martin:Ft. Worth, TX | 25,935.737 | 1,643.535 | Oct 2010 | 1,747.553 | Oct 2011 | - | | 1,747.553 | 4,570.645 | 33,897.470 | 27,514.470 |
| Primary H/W Development - IDIQ (0022) | C/CPAF | Lockheed Martin:Ft. Worth, TX | 6.982 | 4.937 | Sep 2011 | 4.000 | Sep 2012 | - | | 4.000 | 6.500 | 22.419 | 17.328 |
| Primary H/W Development - IDIQ (0009) | C/CPAF | Lockheed Martin:Ft. Worth, TX | 16.759 | - | Oct 2010 | - | Oct 2011 | - | | - | 0.000 | 16.759 | 2,143.850 |
| Primary H/W Development - BOA(3104) | SS/CR | Lockheed Martin:Ft. Worth, TX | 3.511 | - | Oct 2010 | - | Oct 2011 | - | | - | 0.000 | 3.511 | 6,668.763 |
| Primary H/W Development - SDD (3003) | SS/CPAF | Pratt & Whitney:Hartford, CT | 6,530.993 | 360.000 | Dec 2010 | 360.000 | Dec 2011 | - | | 360.000 | 916.462 | 8,167.455 | 642.155 |
| Primary H/W Development (C-0132) | SS/CPAF | Pratt & Whitney:Hartford, CT | 1.364 | - | Jan 2011 | - | Oct 2011 | - | | - | 0.000 | 1.364 | 346.694 |
| Primary H/W Development (C-0050) | SS/CPAF | Pratt & Whitney:Hartford, CT | 2.211 | - | Jan 2011 | - | Oct 2011 | - | | - | 0.000 | 2.211 | 14.450 |
| Primary H/W Development BOA(G-3053) | SS/CPAF | Pratt & Whitney:Hartford, CT | 35.983 | - | Oct 2010 | - | Oct 2011 | - | | - | 0.000 | 35.983 | |
| Primary H/W Development IDIQ (D-0077) | SS/CPAF | Pratt & Whitney:Hartford, CT | 10.925 | - | Oct 2010 | - | Oct 2011 | - | | - | 0.000 | 10.925 | |
| Primary H/W Development GE (C-0093) | SS/CPAF | Pratt & Whitney:Hartford, CT | 2,086.285 | - | | - | | - | | - | 0.000 | 2,086.285 | 2,466.974 |
| Primary H/W Development GE (C-0009) | SS/CPAF | GE:Cinn, Ohio | 0.264 | - | | - | | - | | - | 0.000 | 0.264 | |
| Primary H/W Development GE (04-D-0074) | SS/CPAF | GE:Cinn, Ohio | 4.175 | - | | - | | - | | - | 0.000 | 4.175 | |
| Primary H/W Dev0elopment GE (04-C-0102) | SS/CPAF | GE:Cinn, Ohio | 100.400 | - | | - | | - | | - | 0.000 | 100.400 | |
| Primary H/W Development GE (02-G-3236) | SS/CPAF | GE:Cinn, Ohio | 5.548 | - | | - | | - | | - | 0.000 | 5.548 | |
| Primary H/W Development GE (96-C-0176) | SS/CPAF | GE:Cinn, Ohio | 382.753 | - | | - | | - | | - | 0.000 | 382.753 | |
| Product Development Systems Engineering | Various | Various:Various | 253.788 | 39.264 | Oct 2010 | 45.457 | Oct 2011 | - | | 45.457 | 109.670 | 448.179 | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604800M: <i>(U)Joint Strike Fighter (JSF) - EMD</i> | PROJECT 2262: <i>Joint Strike Fighter EMD STOVL</i> |
|---|---|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| NAWC CHLK FOD | Various | NAWC:China Lake | - | - | | 0.202 | Oct 2011 | - | | 0.202 | 1.653 | 1.855 | |
| NAWC PAX FOD | Various | NAWC:PAX | - | - | | 0.142 | Oct 2011 | - | | 0.142 | 1.332 | 1.474 | |
| PRIME LM FOD | Various | Lockheed Martin:Ft.Worth, TX | - | 54.845 | Oct 2010 | 32.712 | Oct 2011 | - | | 32.712 | 234.757 | 322.314 | |
| PRIME ENGINE P&W FOD | Various | ratt & Whitney:Hartford, CT | - | 2.000 | Oct 2010 | 2.000 | Oct 2011 | - | | 2.000 | 8.000 | 12.000 | |
| Systems Engineering FOD | Various | Various:Various | - | 0.067 | Oct 2010 | 0.344 | Oct 2011 | - | | 0.344 | 2.985 | 3.396 | |
| Subtotal | | | 35,377.678 | 2,104.648 | | 2,192.410 | | - | | 2,192.410 | 5,852.004 | 45,526.740 | |

Remarks

Note: Target Values of prime contracts differ from Total Cost because (a) Lockheed Martin and Pratt & Whitney Contracts have not been modified to reflect planned funding allocations and (b) no funds are budgeted for F136 (General Electric/Rolls Royce (GE/RR) Fighter Engine Team (FET)) beyond FY10. Cumulative Award Fee Earned in prior years for Lockheed Martin is 82.1%. Cumulative Award Fee Earned in prior years for Pratt & Whitney is 85.2%.

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Development Support | Various | Eglin AFB:Eglin, FL | 90.108 | 14.873 | Oct 2010 | 14.929 | Oct 2011 | - | | 14.929 | 48.545 | 168.455 | |
| Development Support | Various | ASC/AFRL:Dayton, OH | 45.793 | 3.768 | Oct 2010 | 7.625 | Oct 2011 | - | | 7.625 | 39.553 | 96.739 | |
| Development Support | Various | ASC/CIVPAY:Dayton, Ohio | - | - | | 19.554 | Oct 2011 | - | | 19.554 | 126.714 | 146.268 | |
| Development Support | Various | Bolling AFB:Washington, DC | 6.775 | - | Oct 2010 | - | | - | | - | 0.000 | 6.775 | |
| Development Support | Various | DEMA:Various | 4.112 | 10.000 | Oct 2010 | 25.500 | Oct 2011 | - | | 25.500 | 0.000 | 39.612 | |
| Development Support | MIPR | ESC:Hanscom AFB, MA | 6.848 | 0.305 | Oct 2010 | 0.376 | Oct 2011 | - | | 0.376 | 0.480 | 8.009 | |
| Development Support | Various | AEDC/Fuel:Arnold, TN | 131.403 | 38.063 | Oct 2010 | 58.764 | Oct 2011 | - | | 58.764 | 58.230 | 286.460 | |
| Development Support | WR | NAS Jacksonville:Jacksonville, FL | 6.323 | 1.632 | Oct 2010 | 1.985 | Oct 2011 | - | | 1.985 | 6.255 | 16.195 | |

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604800M: <i>(U)Joint Strike Fighter (JSF) - EMD</i> | PROJECT 2262: <i>Joint Strike Fighter EMD STOVL</i> |
|---|---|---|

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|--|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Development Support | Various | Various:Various | 206.823 | 21.100 | Oct 2010 | 21.298 | Oct 2011 | - | | 21.298 | 46.457 | 295.678 | |
| Development Support | Various | NAWC WD:China Lake, CA | 93.603 | 28.874 | Oct 2010 | 33.068 | Oct 2011 | - | | 33.068 | 56.887 | 212.432 | |
| Development Support | Various | NAWC AD:Patuxent, MD | 267.856 | 37.606 | Oct 2010 | 51.057 | Oct 2011 | - | | 51.057 | 122.972 | 479.491 | |
| Development Support | Various | NAWC TSD:Orlando, FL | 7.750 | 1.585 | Oct 2010 | 2.362 | Oct 2011 | - | | 2.362 | 4.854 | 16.551 | |
| Development Support | WR | NSWC:Indian Head, MD | 3.360 | 0.455 | Oct 2010 | 0.572 | Oct 2011 | - | | 0.572 | 0.190 | 4.577 | |
| Development Support | Various | SPAWAR:San Diego, CA | 6.525 | 0.030 | Oct 2010 | 0.038 | Oct 2011 | - | | 0.038 | 0.134 | 6.727 | |
| Prior Years costs no longer funded in the FYDP | Various | SIBR Cong ADD:Various | 24.187 | - | | - | | - | | - | 0.000 | 24.187 | |
| MISC/OTHER FOD | Various | Various:Various | - | - | Oct 2010 | 0.063 | Oct 2011 | - | | 0.063 | 0.147 | 0.210 | |
| NAWC CHLK FOD | Various | Various:Various | - | 0.327 | Oct 2010 | 0.494 | Oct 2011 | - | | 0.494 | 15.223 | 16.044 | |
| NAWC PAX FOD | Various | Various:Various | - | 0.485 | Oct 2010 | 1.917 | Oct 2011 | - | | 1.917 | 28.279 | 30.681 | |
| Subtotal | | | 901.466 | 159.103 | | 239.602 | | - | | 239.602 | 554.920 | 1,855.091 | |

Remarks

When Various/Various appears in the Contract Method/Type or Funding Vehicle it is normally because Air Force and Navy and sometimes international funding is going to the same site on various funding document types.

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Developmental Test & Evaluation | Various | NAWCAD:Patuxent River, MD | 226.209 | 121.877 | Oct 2010 | 130.731 | Oct 2011 | - | | 130.731 | 732.191 | 1,211.008 | |
| Developmental Test & Evaluation | Various | NAWCWD:China Lake, CA | 16.220 | 11.409 | Oct 2010 | 11.637 | Oct 2011 | - | | 11.637 | 23.771 | 63.037 | |
| Developmental Test & Evaluation | PO | Edwards AFB:Edwards AFB, CA | 283.450 | 86.850 | Oct 2010 | 94.841 | Oct 2011 | - | | 94.841 | 256.139 | 721.280 | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604800M: <i>(U)Joint Strike Fighter (JSF) - EMD</i> | PROJECT 2262: <i>Joint Strike Fighter EMD STOVL</i> |
|---|---|---|

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|-----------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Developmental Test & Evaluation | Various | Various:Various | 15.691 | 19.395 | Oct 2010 | 26.441 | Oct 2011 | - | | 26.441 | 28.050 | 89.577 | |
| Developmental Test & Evaluation | MIPR | WEPS:Eglin AFB, FL | 20.485 | 14.150 | Oct 2010 | 2.600 | Oct 2011 | - | | 2.600 | 2.800 | 40.035 | |
| Developmental Test & Evaluation | MIPR | OT-AFOTEC/ AFFTC:Eglin AFB, FL | 78.482 | 23.819 | Oct 2010 | 52.200 | Oct 2011 | - | | 52.200 | 382.840 | 537.341 | |
| Developmental Test & Evaluation | Various | OT-JITC/ OPTEV:Various | 3.841 | 3.500 | Oct 2010 | 4.700 | Oct 2011 | - | | 4.700 | 35.214 | 47.255 | |
| Developmental Test & Evaluation | Various | JITC:Various | 0.503 | - | Oct 2010 | - | Oct 2011 | - | | - | 0.000 | 0.503 | |
| Subtotal | | | 644.881 | 281.000 | | 323.150 | | - | | 323.150 | 1,461.005 | 2,710.036 | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Program Management | SS/CPFF | ACT I:Arlington, VA | 2.981 | 2.833 | Oct 2010 | 3.418 | Oct 2011 | - | | 3.418 | 12.872 | 22.104 | 21.072 |
| Program Management - Mantech | C/FP | Mantech:Arlington, VA | 42.487 | 7.015 | Oct 2010 | 8.366 | Oct 2011 | - | | 8.366 | 35.336 | 93.204 | 88.233 |
| Program Management - PA Consulting | SS/CPFF | PA Consultants:Arlington, VA | - | - | Oct 2010 | - | Oct 2011 | - | | - | 0.000 | 0.000 | 15.486 |
| Program Management - DRC | C/CPFF | DRC:Arlington, VA | 5.916 | 3.000 | Oct 2010 | - | | - | | - | 0.000 | 8.916 | 8.676 |
| Program Management | C/CPFF | First Principles:Arlington, VA | 1.398 | 1.523 | Oct 2010 | 1.936 | Oct 2011 | - | | 1.936 | 4.105 | 8.962 | 6.871 |
| Program Management | Various | ASC CIVPAY:VARIOUS | - | - | | 3.500 | Oct 2011 | - | | 3.500 | 21.000 | 24.500 | |
| Program Management | C/CPFF | Wyle:Arlington, VA | 78.871 | 19.305 | Oct 2010 | 27.418 | Oct 2011 | - | | 27.418 | 93.283 | 218.877 | 197.674 |
| Program Management | C/CPAF | Saftas:Arlington, VA | 77.789 | 18.200 | Oct 2010 | 26.600 | Oct 2011 | - | | 26.600 | 91.000 | 213.589 | 191.562 |
| Program Management | C/CPAF | Stanley:Arlington, VA | 131.456 | 19.800 | Sep 2011 | 27.940 | Sep 2012 | - | | 27.940 | 97.660 | 276.856 | 235.299 |
| Program Management | C/CPFF | GE F136-COG Studies:Cinn., OH | 0.800 | - | Oct 2010 | - | Oct 2011 | - | | - | 0.000 | 0.800 | 21.040 |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604800M: <i>(U)Joint Strike Fighter (JSF) - EMD</i> | PROJECT 2262: <i>Joint Strike Fighter EMD STOVL</i> |
|---|---|---|

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Travel and Miscellaneous | Various | Various:Various | 11.740 | 3.802 | Oct 2010 | 4.269 | Oct 2011 | - | | 4.269 | 17.392 | 37.203 | |
| Subtotal | | | 353.438 | 75.478 | | 103.447 | | - | | 103.447 | 372.648 | 905.011 | |

Remarks
Cumulative Award Fee earned in prior years for Stanley is 99%.

| | Total Prior Years Cost | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|--------------------------------|------------------------|------------|-----------|--------------|-----------|-------------|---|---------------|------------------|------------|--------------------------|
| Cost Category Subtotals | | 37,277.463 | 2,620.229 | | 2,858.609 | | - | 2,858.609 | 8,240.577 | 50,996.878 | |
| Navy | | | 707.791 | | 677.486 | | - | 677.486 | | | |
| Air Force | | | 1,043.610 | | 1,387.926 | | - | 1,387.926 | | | |
| International | | | 200.912 | | 122.474 | | - | 122.474 | | | |
| Congressional Add | | | - | | - | | - | - | | | |
| Project Cost Totals | | 37,277.463 | 667.916 | | 670.723 | | - | 670.723 | 8,240.577 | 50,996.878 | |

Remarks
Subtotals and totals may not add due to rounding.
Note: Target Values of prime contracts differs from Total Cost because (a) Lockheed Martin and Pratt & Whitney Contracts have not been modified to reflect planned funding allocations and (b) no funds are budgeted for F136 (FET GE/RR) beyond FY10. Total prior year affects actual funds executed.

The following table presents the total dollars distributed in the R2a and R3. This has been done to give a more accurate picture of the total dollars being spent on each task. The Department of the Navy (DoN) funding profile as identified below reflects current execution budget adjustments to include significant Below Threshold Reprogrammings and Small Business Innovation Research reductions.

| Name | PE | PU | FY 10 | FY 11 | FY 12 |
|-------------------------|----------|-------|-----------|-----------|-----------|
| Navy | 0604800N | 2261 | 1,641.069 | 667.915 | 650.773 |
| Air Force | 0604800F | 3831 | 2,033.521 | 1,043.610 | 1,387.926 |
| Marine Corps | 0604800M | 2262 | 0 | 667.916 | 670.723 |
| International (SDD/FOD) | | | 161.511 | 200.912 | 122.474 |
| Cong Add* | 0604800N | 2261A | 214.108 | 0 | 0 |

Total Funding 4,081.207 2,620.229 2,858.609

*Navy Cong Add Alt Engine funding is included in the PU 2261 Exhibits as well as the Cong Add exhibit.

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604800M: <i>(U)Joint Strike Fighter (JSF) - EMD</i> | PROJECT 2262: <i>Joint Strike Fighter EMD STOVL</i> |
|---|---|---|

| | Total Prior Years Cost | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|--|------------------------|---------|--------------|-------------|---------------|------------------|------------|--------------------------|
|--|------------------------|---------|--------------|-------------|---------------|------------------|------------|--------------------------|

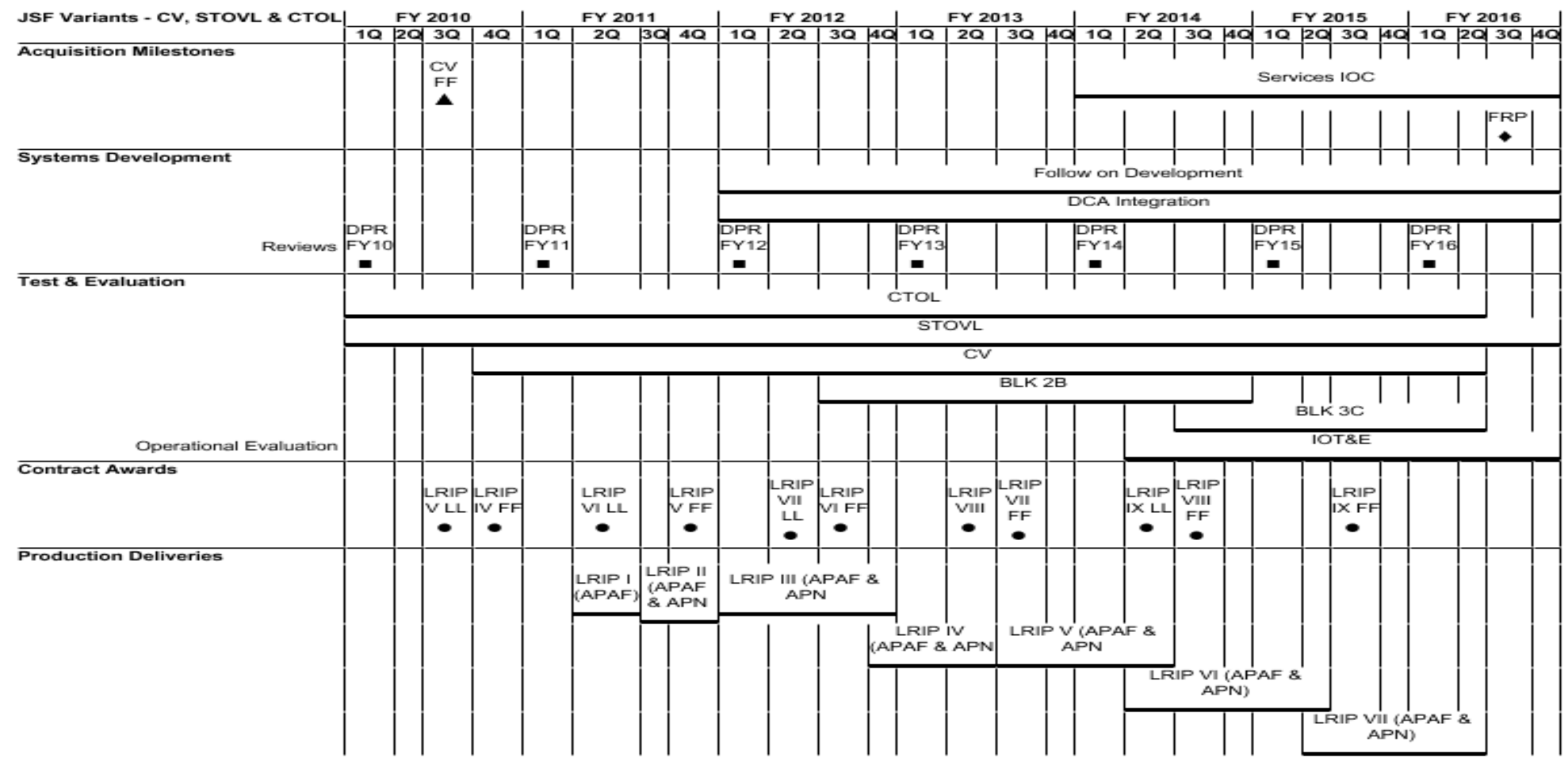
| | | | | |
|------|------|--------|--------|--------|
| Name | PU | FY 10 | FY 11 | FY 12 |
| Navy | 3194 | 30.998 | 39.876 | 26.713 |

Total 0604800N under separate PUs: 30.998 39.876 26.713

Total F-35 funding associated with PEs 0604800N, 0604800F and 0604800M: 3,919.696 2,419.317 2,736.135

UNCLASSIFIED

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604800M: (U) <i>Joint Strike Fighter (JSF) - EMD</i> | PROJECT 2262: <i>Joint Strike Fighter EMD STOVL</i> |
|---|--|---|



UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy DATE: February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604800M: <i>(U)Joint Strike Fighter (JSF) - EMD</i> | PROJECT 2262: <i>Joint Strike Fighter EMD STOVL</i> |
|---|---|---|

| | | |
|---------------------------------|--|---|
| <p>2012PB - 0604800M - 2262</p> | | <p>LRIP VIII (APAF & APN)</p> |
|---------------------------------|--|---|

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604800M: <i>(U)Joint Strike Fighter (JSF) - EMD</i> | PROJECT 2262: <i>Joint Strike Fighter EMD STOVL</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| JSF Variants - CV, STOVL & CTOL | | | | |
| Acquisition Milestones: Carrier Variant First Flight | 3 | 2010 | 3 | 2010 |
| Acquisition Milestones: Services Initial Operating Capability | 1 | 2014 | 4 | 2016 |
| Acquisition Milestones: Full Rate Production Decision Review | 3 | 2016 | 3 | 2016 |
| Systems Development: Follow on Development | 1 | 2012 | 4 | 2016 |
| Systems Development: Dual Capability Aircraft Integration | 1 | 2012 | 4 | 2016 |
| Systems Development: Reviews: Defense Acquisition Board Program Reviews (DPRs) FY10 | 1 | 2010 | 1 | 2010 |
| Systems Development: Reviews: DPR FY11 | 1 | 2011 | 1 | 2011 |
| Systems Development: Reviews: DPR FY12 | 1 | 2012 | 1 | 2012 |
| Systems Development: Reviews: DPR FY13 | 1 | 2013 | 1 | 2013 |
| Systems Development: Reviews: DPR FY14 | 1 | 2014 | 1 | 2014 |
| Systems Development: Reviews: DPR FY15 | 1 | 2015 | 1 | 2015 |
| Systems Development: Reviews: DPR FY16 | 1 | 2016 | 1 | 2016 |
| Test & Evaluation: Conventional Take Off and Landing (CTOL) | 1 | 2010 | 2 | 2016 |
| Test & Evaluation: Short Take Off and Landing (STOVL) | 1 | 2010 | 4 | 2016 |
| Test & Evaluation: Carrier Variant (CV) | 4 | 2010 | 2 | 2016 |
| Test & Evaluation: Block 2B | 3 | 2012 | 4 | 2014 |
| Test & Evaluation: Block 3C | 3 | 2014 | 2 | 2016 |
| Test & Evaluation: Operational Evaluation: Initial Operational Test & Evaluation | 2 | 2014 | 4 | 2016 |
| Contract Awards: Low Rate Initial Production (LRIP) IV Full Funding | 4 | 2010 | 4 | 2010 |
| Contract Awards: LRIP V Long Lead | 3 | 2010 | 3 | 2010 |
| Contract Awards: LRIP V Full Funding | 4 | 2011 | 4 | 2011 |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604800M: <i>(U)Joint Strike Fighter (JSF) - EMD</i> | PROJECT 2262: <i>Joint Strike Fighter EMD STOVL</i> |
|---|---|---|

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Contract Awards: LRIP VI Long Lead | 2 | 2011 | 2 | 2011 |
| Contract Awards: LRIP VI Full Funding | 3 | 2012 | 3 | 2012 |
| Contract Awards: LRIP VII Long Lead | 2 | 2012 | 2 | 2012 |
| Contract Awards: LRIP VII Full Funding | 3 | 2013 | 3 | 2013 |
| Contract Awards: LRIP VIII Long Lead | 2 | 2013 | 2 | 2013 |
| Contract Awards: LRIP VIII Full Funding | 3 | 2014 | 3 | 2014 |
| Contract Awards: LRIP IX Long Lead | 2 | 2014 | 2 | 2014 |
| Contract Awards: LRIP IX Full Funding | 3 | 2015 | 3 | 2015 |
| Production Deliveries: LRIP I Delivery (APAF) | 2 | 2011 | 2 | 2011 |
| Production Deliveries: LRIP II Delivery (APAF & APN) | 3 | 2011 | 4 | 2011 |
| Production Deliveries: LRIP III Delivery (APAF & APN) | 1 | 2012 | 4 | 2012 |
| Production Deliveries: LRIP IV Delivery (APAF & APN) | 4 | 2012 | 2 | 2013 |
| Production Deliveries: LRIP V Delivery (APAF & APN) | 3 | 2013 | 2 | 2014 |
| Production Deliveries: LRIP VI Delivery (APAF & APN) | 2 | 2014 | 2 | 2015 |
| Production Deliveries: LRIP VII Delivery (APAF & APN) | 2 | 2015 | 2 | 2016 |
| Production Deliveries: LRIP VIII Delivery (APAF & APN) | 2 | 2016 | 4 | 2016 |

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604800N: <i>JT Strike Fighter (JSF) - EMD</i> |
|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---|-----------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| Total Program Element | 1,886.175 | 707.791 | 677.486 | - | 677.486 | 744.516 | 706.512 | 588.704 | 462.301 | Continuing | Continuing |
| 2261: <i>Joint Strike Fighter EMD</i> | 1,641.069 | 667.915 | 650.773 | - | 650.773 | 725.043 | 706.512 | 588.704 | 462.301 | Continuing | Continuing |
| 3194: <i>Joint Reprogramming Center</i> | 30.998 | 39.876 | 26.713 | - | 26.713 | 19.473 | - | - | - | 0.000 | 117.060 |
| 9999: <i>Congressional Adds</i> | 214.108 | - | - | - | - | - | - | - | - | 0.000 | 214.108 |

Note

This Program Element (PE) continues development efforts budgeted in PE 0603800N since FY 02. Effective with the President's Budget FY 11 budget submission, the F-35B United States Marine Corps (USMC) Short Take-off Vertical Landing (STOVL) and F-35C United States Navy (USN) Carrier Variant (CV) budgets are reported against separate budget line items and PEs. Starting in FY 11, the F-35B budget is reported against the newly created PE 0604800M. The F-35C USN budget continues to report under PE 0604800N.

A. Mission Description and Budget Item Justification

The F-35 Lightning II Joint Strike Fighter (JSF) program will develop and field a family of aircraft that meets the needs of the USN, USAF, USMC, and allies, with maximum commonality among the variants, consistent with National Disclosure Policy, to minimize life cycle costs. This is a joint program with no executive service. Navy and Air Force each provide approximately equal shares of annual funding to the program. The United Kingdom, (seven) other International countries, and (four) Foreign Military Sales cases are participants in the JSF Program. The program combines USN, USMC, USAF, and International Partner funding. The top line PE cost (R-2) reflects USN F-35C Carrier Variant (CV) budgetary information only. However, funding at the accomplishment/planned program level (R-2A) is reported in total (all services and partners) as the activities support all aircraft variants. Within the Navy, funding is a roughly equal contribution of annual funding by the USN and USMC.

Funding under this USN program element supports core F-35 System Development and Demonstration (SDD) objectives and aircraft Follow-on Development efforts.

The SDD Budget funds a total quantity of 20 RDT&E test articles to include 6 ground test articles and 14 flight test articles for Navy and Air Force use. The following fiscal year phasing of the test articles reflects the scheduled first flight of each flight test asset or production line roll out of each ground test asset:

- FY07: 1 Conventional Take Off and Landing (CTOL) flight test article
- FY08: 1 Short Take Off and Vertical Landing (STOVL) flight test article, 1 STOVL ground test
- FY09: 1 STOVL flight test article, 2 CTOL ground test articles
- FY10: 6 flight test articles (3 CTOL, 2 STOVL, 1 Carrier Variant (CV)), 3 ground test articles (1 STOVL, 2 CV)
- FY11: 4 flight test articles (1 CTOL, 1 STOVL, 2 CV)
- FY12: 1 flight test article (CV)

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604800N: <i>JT Strike Fighter (JSF) - EMD</i> |
|---|---|

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 1,948.244 | 707.791 | 621.032 | - | 621.032 |
| Current President's Budget | 1,886.175 | 707.791 | 677.486 | - | 677.486 |
| Total Adjustments | -62.069 | - | 56.454 | - | 56.454 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | -9.998 | - | | | |
| • SBIR/STTR Transfer | -51.961 | - | | | |
| • Program Adjustments | - | - | 61.486 | - | 61.486 |
| • Rate/Misc Adjustments | - | - | -5.032 | - | -5.032 |
| • Congressional General Reductions Adjustments | -0.110 | - | - | - | - |

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 9999: *Congressional Adds*

Congressional Add: *Maintain Dev Of 2nd Source For Engine*

Congressional Add Subtotals for Project: 9999

Congressional Add Totals for all Projects

| | FY 2010 | FY 2011 |
|--|----------------|----------------|
| | 214.108 | - |
| | 214.108 | - |
| | 214.108 | - |

Change Summary Explanation

Financial: Financial adjustments reflect increased funding associated with 2-year extension of SDD Program.

Schedule: Significant changes to schedule reflect program restructure resulting from a critical Nunn-McCurdy breach and Acquisition Decision Memorandum guidance (dated 2 June 2010) as well as subsequent two-year extension of program to accommodate completion of Development Testing/Operational Testing. Schedule now includes detail for Test and Evaluation of JSF variants. Specific slips associated with this restructure include: CV 1st flight occurred in 3rd Quarter FY 10, Block 2 Operational Test & Evaluation to conclude in 4th Quarter FY 15, and Block 3 Operational Test & Evaluation to conclude in 2nd Quarter FY 16. Performance Based Logistics (PBL) (increasing scale and fidelity thru MYP), Follow-on Development, and Dual Capability Aircraft Integration have been added to the schedule.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604800N: <i>JT Strike Fighter (JSF) - EMD</i> | PROJECT 2261: <i>Joint Strike Fighter EMD</i> |
|---|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---------------------------------------|-----------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 2261: <i>Joint Strike Fighter EMD</i> | 1,641.069 | 667.915 | 650.773 | - | 650.773 | 725.043 | 706.512 | 588.704 | 462.301 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

Note

This Program Element (PE) continues development efforts budgeted in PE 0603800N since FY 02.

Articles are no longer shown in the "Quantity of RDT&E Articles" section of the budget in FY 10, FY 11, & FY 12 as all articles were started in prior years. In the previous budgets the articles have been shown in the budget based on year first flight when they should have been shown based on when work was first commenced on the article. FY 10 flight test articles were started in FY 07. FY11 flight test articles were started in FY 08. FY12 flight test article was started in FY 09.

A. Mission Description and Budget Item Justification

The F-35 Lightning II Joint Strike Fighter (JSF) program will develop and field a family of aircraft that meets the needs of the USN, USAF, USMC, and allies, with maximum commonality among the variants, consistent with National Disclosure Policy, to minimize life cycle costs. This is a joint program with no executive service. Navy and Air Force each provide approximately equal shares of annual funding to the program. The United Kingdom, (seven) other International countries, and (four) Foreign Military Sales cases are participants in the JSF Program. The program combines USN, USMC, USAF, and International Partner funding. The top line PE cost reflects USN F-35C Carrier Variant (CV) budgetary information only. However, funding at the accomplishment/planned program level is reported in total (all services and partners) as the activities support all aircraft variants. Within the Navy, funding is a roughly equal contribution of annual funding by the USN and USMC.

The System Development and Demonstration (SDD) Budget funds a total quantity of 20 RDT&E test articles to include 6 ground test articles and 14 flight test articles for Navy and Air Force use. The following fiscal year phasing of the test articles reflects the scheduled first flight of each flight test asset or production line roll out of each ground test asset:

- FY07: 1 Conventional Take Off and Landing (CTOL) flight test article
- FY08: 1 Short Take Off and Vertical Landing (STOVL) flight test article, 1 STOVL ground test
- FY09: 1 STOVL flight test article, 2 CTOL ground test articles
- FY10: 6 flight test articles (3 CTOL, 2 STOVL, 1 Carrier Variant (CV)), 3 ground test articles (1 STOVL, 2 CV)
- FY11: 4 flight test articles (1 CTOL, 1 STOVL, 2 CV)
- FY12: 1 flight test article (CV)

Funding under this project unit supports core USN SDD objectives as well as costs to support Follow-on Development efforts.

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|---|-----------|-----------|-----------|
| Title: SDD | 2,836.180 | 1,648.472 | 1,751.553 |

UNCLASSIFIED

| | | | | |
|--|---|---|----------------|----------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604800N: <i>JT Strike Fighter (JSF) - EMD</i> | PROJECT 2261: <i>Joint Strike Fighter EMD</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| Articles: | | 0 | 0 | 0 |
| FY 2010 Accomplishments: Continued SDD execution of the Air System, with Lockheed Martin including International Commonality Effort which included airframe, vehicle systems, mission systems, autonomic logistics, systems engineering, and integrated test efforts. | | | | |
| FY 2011 Plans: Continue SDD execution of the Air System, with Lockheed Martin including International Commonality Effort which includes airframe, vehicle systems, mission systems, autonomic logistics, systems engineering, and integrated test efforts. | | | | |
| FY 2012 Plans: Continue SDD execution of the Air System, with Lockheed Martin including International Commonality Effort which includes airframe, vehicle systems, mission systems, autonomic logistics, systems engineering, and integrated test efforts. | | | | |
| Title: F135 Propulsion System | | 458.329 | 360.000 | 360.000 |
| Articles: | | 0 | 0 | 0 |
| FY 2010 Accomplishments: Continued SDD execution of the F135 Propulsion System with Pratt & Whitney that included engine testing, autonomic logistics, integration and performing technology maturation efforts. | | | | |
| FY 2011 Plans: Continue SDD execution of the F135 Propulsion System with Pratt & Whitney to include engine testing, autonomic logistics, integration and performing technology maturation efforts. | | | | |
| FY 2012 Plans: Continue SDD execution of the F135 Propulsion System with Pratt & Whitney to include: engine testing, autonomic logistics, integration and performing technology maturation efforts. | | | | |
| Title: F136 Propulsion System | | 415.918 | - | - |
| Articles: | | 0 | | |
| FY 2010 Accomplishments: Congressional Add funding for continued F136 Propulsion System development effort (that appears in the PU: 9999 section of the DoN 2012 budget submission for PE 0604800N) by the General Electric/Rolls Royce Fighter Engine team (GE/RR FTE). | | | | |
| Title: Systems Engineering | | 28.176 | 39.264 | 45.457 |
| Articles: | | 0 | 0 | 0 |
| FY 2010 Accomplishments: | | | | |

UNCLASSIFIED

| | | | | |
|---|---|---|----------------|----------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604800N: <i>JT Strike Fighter (JSF) - EMD</i> | PROJECT 2261: <i>Joint Strike Fighter EMD</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| Continued SDD Systems Engineering that included systems operations requirements analysis, program integration, requirements integration, and interoperability support. FY 2011 Plans: Continue SDD Systems Engineering including systems operations requirements analysis, program integration, requirements integration, and interoperability support. FY 2012 Plans: Continue SDD Systems Engineering including systems operations requirements analysis, program integration, requirements integration, and interoperability support. | | | | |
| Title: Development Test and Evaluation FY 2010 Accomplishments: Continued government Development Test and Evaluation (DT&E)/Operational Evaluation as the DT fleet of test aircraft received six flight test and three ground assets. FY10 tasks originally supported a Block I and Block II mission systems DT&E but due to a restructured test schedule only Block 0.5 tests were completed and testing to support initial Low Rate Initial Production (LRIP) 1 Training was continued on Block 1 software. Flight sciences testing on CTOL variant was completed to meet initial LRIP air vehicle performance envelope requirements, and envelope expansion testing continued on all three variants to meet their initial LRIP envelope requirements and to support mission systems testing. Elements of DT&E included preparation for flight testing, weapons integration testing, and component capabilities testing. FY 2011 Plans: Continue government DT&E/Operational Evaluation in support of envelope expansion, LRIP aircraft deliveries, and initial service training. Continue flight sciences testing of CTOL, STOVL, and CV variants to expand the air vehicle envelope to support mission systems testing. Commence and complete Block 1 Mission Systems flight test, and commence Block 2 flight test. Elements of DT&E included preparation for flight testing, weapons integration testing, and component capabilities testing. FY 2012 Plans: Continue government DT&E/Operational Testing in support of test aircraft. Continue flight sciences testing of CTOL, STOVL, and CV variants to expand the air vehicle envelope to support mission systems testing to include initial Block 2B. Elements of DT&E included preparation for flight testing, weapons integration testing, and component capabilities testing. | | 149.547 0 | 281.000 0 | 323.150 0 |
| Title: Development Support FY 2010 Accomplishments: | | 121.579 0 | 158.291 0 | 237.128 0 |

UNCLASSIFIED

| | | | | |
|---|---|---|-----------------------|----------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604800N: <i>JT Strike Fighter (JSF) - EMD</i> | PROJECT 2261: <i>Joint Strike Fighter EMD</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| Continued SDD Support efforts for airframe, air vehicle systems, mission systems, weapons integration, mission support, and autonomic logistics development activities. FY 2011 Plans: Continue SDD Support efforts for airframe, air vehicle systems, mission systems, weapons integration, mission support, and autonomic logistics development activities. FY 2012 Plans: Continue SDD Support efforts for airframe, air vehicle systems, mission systems, weapons integration, mission support, and autonomic logistics development activities. | | | | |
| Title: Program Management Support | | 71.478 | 75.478 | 103.447 |
| | | Articles: 0 | 0 | 0 |
| FY 2010 Accomplishments: Continued management support services, travel, engineering technical services, and studies analyses and evaluations in support of program objectives. FY 2011 Plans: Continue management support services, travel, engineering technical services, and studies analyses and evaluations in support of program objectives. FY 2012 Plans: Continue management support services, travel, engineering technical services, and studies analyses and evaluations in support of program objectives. | | | | |
| Title: Follow-on Development | | - | 57.724 | 37.874 |
| | | | Articles: 0 | 0 |
| FY 2011 Plans: Initiate follow-on development Block IV capabilities to include logistics, weapons, security, sensors, survivability, and upgrades required to support F-35 variants. Efforts will support aircraft and engine delivery to services and partner nations commencing in FY 15 and will integrate urgent operationally relevant requirements post-Initial Operational Capability (IOC). FY 2012 Plans: | | | | |

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604800N: <i>JT Strike Fighter (JSF) - EMD</i> | PROJECT 2261: <i>Joint Strike Fighter EMD</i> |

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|---|----------------|----------------|----------------|
| Continue follow-on development Block IV capabilities to include logistics, weapons, security, sensors, survivability, and upgrades required to support F-35 variants. Efforts will support aircraft and engine delivery to services and partner nations commencing in FY 15 and will integrate urgent operationally relevant requirements post-IOC. | | | |
| Accomplishments/Planned Programs Subtotals | 4,081.207 | 2,620.229 | 2,858.609 |
| Air Force | 2,033.521 | 1,043.610 | 1,387.926 |
| Marine Corps | - | 667.916 | 670.723 |
| International | 161.511 | 200.912 | 122.474 |
| Congressional Add | 214.108 | - | - |
| Navy Project 3194 | 30.998 | 39.876 | 26.713 |
| Navy Subtotals | 1,641.069 | 667.915 | 650.773 |

C. Other Program Funding Summary (\$ in Millions)

| Line Item | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|----------------|----------------|-------------------------|------------------------|--------------------------|----------------|----------------|----------------|----------------|-----------------------------|-------------------|
| • RDTEF/0604800F: <i>Joint Strike Fighter</i> | 2,033.521 | 1,043.610 | 1,387.926 | 0.000 | 1,387.926 | 1,198.293 | 933.452 | 608.211 | 361.064 | 0.000 | 22,029.126 |
| • International1 : <i>International Partners (SDD/FOD)</i> | 161.511 | 200.912 | 122.474 | 0.000 | 122.474 | 144.220 | 2.800 | 0.000 | 0.000 | 0.000 | 5,108.601 |
| • APAF/0207142F: <i>F-35 Joint Strike Fighter</i> | 2,357.949 | 4,191.142 | 3,664.092 | 0.000 | 3,664.092 | 3,764.260 | 5,285.022 | 5,985.244 | 7,703.525 | 147,239.170 | 181,851.032 |
| • RDTEN/0604800M: <i>Joint Strike Fighter (JSF) - EMD</i> | 0.000 | 667.916 | 670.723 | 0.000 | 670.723 | 741.600 | 703.575 | 585.759 | 459.571 | 0.000 | 3,829.144 |
| • APN/0152: <i>F-35 Joint Strike Fighter STOVL</i> | 0.000 | 2,576.142 | 1,259.162 | 0.000 | 1,259.162 | 1,296.310 | 1,379.916 | 1,865.005 | 2,709.859 | 24,536.751 | 35,623.145 |
| • APN/0605B: <i>F-35 Joint Strike Fighter STOVL Spares</i> | 0.000 | 164.135 | 66.430 | 0.000 | 66.430 | 33.290 | 63.484 | 124.791 | 224.075 | 2,143.575 | 2,819.780 |
| • APN/0147: <i>F-35 Joint Strike Fighter CV</i> | 4,449.336 | 1,886.988 | 1,720.762 | 0.000 | 1,720.762 | 2,405.858 | 2,429.364 | 2,952.444 | 2,790.723 | 25,972.535 | 47,648.943 |
| • APN/0605C: <i>F-35 Joint Strike Fighter CV Spares</i> | 248.184 | 107.030 | 86.902 | 0.000 | 86.902 | 101.272 | 331.063 | 313.699 | 91.696 | 1,777.785 | 3,240.139 |
| | 3.017 | 5.410 | 5.665 | 0.000 | 5.665 | 3.848 | 4.895 | 5.615 | 5.670 | 0.000 | 37.932 |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604800N: <i>JT Strike Fighter (JSF) - EMD</i> | PROJECT 2261: <i>Joint Strike Fighter EMD</i> |
|---|---|---|

C. Other Program Funding Summary (\$ in Millions)

| Line Item | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---|---------|---------|-----------------|----------------|------------------|-----------|-----------|-----------|-----------|---------------------|------------|
| • OPN/4265: <i>Other Aviation Support Equipment</i> | | | | | | | | | | | |
| • International2: <i>International Procurement</i> | 727.462 | 733.662 | 1,372.790 | 0.000 | 1,372.790 | 3,010.270 | 4,791.820 | 7,367.040 | 6,817.100 | 0.000 | 24,820.144 |
| • MC/0207142F: <i>USAF MILCON</i> | 67.529 | 139.640 | 31.050 | 0.000 | 31.050 | 89.000 | 72.000 | 69.050 | 65.000 | 0.000 | 533.269 |
| • APAF/0204142F: <i>USAF Modification Funding</i> | 0.000 | 0.000 | 123.936 | 0.000 | 123.936 | 0.000 | 0.000 | 0.000 | 0.000 | 25,972.535 | 26,096.471 |
| • FOD/0207142F: <i>USAF Follow-on Development</i> | 0.000 | 57.724 | 47.841 | 0.000 | 47.841 | 132.495 | 131.844 | 129.164 | 151.614 | 0.000 | 650.682 |
| • 0207142F/USAF : <i>USAF Spares</i> | 129.296 | 263.573 | 151.469 | 0.000 | 151.469 | 322.076 | 340.956 | 508.599 | 770.495 | 1,777.785 | 4,325.345 |

D. Acquisition Strategy

A summary of the acquisition strategy for the F-35B and the F-35C follows.

Activities in the prior phase of JSF centered around three distinct objectives to provide a sound foundation for the start of SDD in Fall 2001:

- (1) facilitated the Services' development of fully validated, affordable operational requirements.
- (2) lowered risk by investing in and demonstrating key leveraging technologies that lowered the cost of development, production, and ownership.
- (3) demonstrated operational concepts.

Early warfighter and technologist interaction was an essential aspect of the requirements definition process. To an unprecedented degree the JSF Program used cost-performance trades early, as an integral part of the weapon system development process. The Services defined requirements through an iterative process, balancing weapon system capability against life cycle cost at every stage. Each iteration of requirements was provided to industry. They evolved their designs and provided cost data back to the warfighters. The warfighters evaluated trades and made decisions for the next iteration. This iterative process produced iterations of the Services' Joint Interim Requirements Documents in 1995, 1997, 1998 and culminated in the approved joint Operational Requirements Document in FY 00.

A sizable technology maturation effort was conducted to reduce risk and life cycle cost through technology maturation and demonstrations. The primary emphasis was on technologies identified as high payoff contributors to affordability, supportability, survivability, and lethality. Numerous demonstrations were accomplished to validate performance and life cycle cost impact to component, subsystem, and the total system.

In November 1996, contracts were awarded to Boeing and Lockheed Martin for Concept Demonstration Programs. These competing contractors built and flew concept demonstrator aircraft, conducted concept unique ground demonstrations, and refined their respective weapon system concepts. Specifically, Boeing and Lockheed Martin demonstrated commonality and modularity, STOVL hover and transition, and low speed handling qualities of their respective weapon system concepts. Pratt

UNCLASSIFIED

| | |
|--|----------------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | DATE: February 2011 |
|--|----------------------------|

| APPROPRIATION/BUDGET ACTIVITY | R-1 ITEM NOMENCLATURE | PROJECT |
|---|---|---------------------------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | PE 0604800N: <i>JT Strike Fighter (JSF) - EMD</i> | 2261: <i>Joint Strike Fighter EMD</i> |

and Whitney provided propulsion hardware and engineering support. General Electric continued development of a second, interchangeable, engine for competition in production.

Following evaluation of proposals and a favorable Milestone B decision, the JSF Program entered SDD on 26 Oct 2001 with SDD contract awards to Lockheed Martin and Pratt & Whitney. The SDD plan reflects a block approach, based on open systems architecture, for accomplishing aircraft and weapons integration. General Electric continued propulsion development efforts through FY 09 when program funding ended.

Follow-on Development will continue the evolutionary approach of SDD by providing capability enhancements through an incremental methodology. The Joint Capabilities Integration and Development System and Defense Acquisition System shall provide the framework and basis for defining, managing and acquiring the envisioned F-35 enhancements. The plan for each follow-on increment will include all the development, integration and verification testing of those capabilities. Additionally, the non-recurring efforts for cut-in of retrofit, production and sustainment will be included. Retrofit planning will be based on upgrading all previously fielded aircraft to the latest increment in order to limit the number of configurations, thus reducing life cycle cost. Retrofit execution will be in accordance with the stakeholder's direction.

These follow-on development efforts will be procured via cost type contracts. It is anticipated that fee provisions will be used to target and motivate contractor performance. The new configurations will be incorporated into production and, if required by the U.S. Services or SDD International Partners, retrofitted to fielded aircraft under F-35 production and sustainment contracts. Similar to SDD, Basic Ordering Agreement and Indefinite Delivery/Indefinite Quantity contracts may be used for trade studies and analyses to supplement Follow-On requirements development.

The updated JSF Acquisition Strategy and program schedule were approved following the May 05 Defense Acquisition Board (DAB). The April 06 DAB authorized full funding for LRIP I procurement. USAF LRIP I Advance Procurement funding was awarded during FY 06, followed by the USAF Regular Procurement award in FY 07. USAF and DoN Advance Procurement funding for LRIP II was awarded during FY 07. USAF LRIP II full-funding contract award occurred in April 08. DoN LRIP II full funding contract was awarded in July 08, upon successful first flight of the DoN STOVL aircraft. USAF and DoN Advance Procurement funding for LRIP III was awarded in May 08, LRIP III full funding was awarded in June 09. LRIP IV advance procurement was awarded in March 09 and full funding contract award occurred in early 4th Quarter FY 10. LRIP V advance procurement contract was awarded 3rd Quarter FY10. LRIP V full funding contract planned for 4th Quarter FY 11.

The F-35 Program experienced a Nunn-McCurdy breach during FY 10, was restructured for the President's Budget FY 11 budget, and was recertified by Office of the Secretary of Defense Acquisition Decision Memorandum (2 June 2010). Milestone B (granted in October 2001) was rescinded. As a result of a December 2010 Secretary of Defense decision, based on a JSF Technical Baseline Review (TBR), SDD was extended by 2 years and funding increased by \$4.6 billion to accommodate completion of DT/OT.

E. Performance Metrics

| | |
|---------------|------------------------------------|
| Combat Radius | |
| CTOL | Meets/Exceeds Tripwire Requirement |
| CV | Meets/Exceeds Tripwire Requirement |
| STOVL | Meets/Exceeds Tripwire Requirement |

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604800N: <i>JT Strike Fighter (JSF) - EMD</i> | PROJECT 2261: <i>Joint Strike Fighter EMD</i> |
| <p>CV Recovery Maximum Approach Speed Meets/Exceeds Requirement In Tripwire Band</p> <p>STOVL Performance Flat Deck (High-High-High Profile Fuel) Meets/Exceeds Requirement In Tripwire Band Ski Jump (High-Medium-Medium-High Profile Fuel) Meets/Exceeds Requirement In Tripwire Band Vertical Landing Bring Back Meets/Exceeds Requirement In Tripwire Band</p> <p>Interoperability Net Ready Criteria- Meets/Exceeds Requirement In Tripwire Band</p> <p>Radio Frequency Signature Meets/Exceeds Tripwire Requirement</p> <p>Mission Reliability CTOL Meets/Exceeds Tripwire Requirement CV Exceeds Ord Objective STOVL USMC Meets/Exceeds Tripwire Requirement STOVL UK Meets/Exceeds Tripwire Requirement</p> <p>Sortie Generation Rate CTOL Meets/Exceeds Tripwire Requirement CV Meets/Exceeds Tripwire Requirement STOVL USMC Meets/Exceeds Tripwire Requirement STOVL UK Meets/Exceeds Tripwire Requirement</p> <p>Logistics Footprints C-17 CTOL Meets/Exceeds Tripwire Requirement STOVL USMC Meets/Exceeds Tripwire Requirement</p> <p>Logistics Footprint- Volume CV Exceeds Ord Objective STOVL USMC Meets/Exceeds Tripwire Requirement STOVL UK Meets/Exceeds Tripwire Requirement</p> | | |

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604800N: <i>JT Strike Fighter (JSF) - EMD</i> | PROJECT 2261: <i>Joint Strike Fighter EMD</i> |
| Logistics Footprint-Weight CV Exceeds Ord Objective STOVL USMC Exceeds Ord Objective STOVL UK Meets/Exceeds Tripwire Requirement | | |

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604800N: <i>JT Strike Fighter (JSF) - EMD</i> | PROJECT 2261: <i>Joint Strike Fighter EMD</i> |
|---|---|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | Target Value of Contract |
|---|------------------------|--------------------------------|------------------------|-----------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | |
| Primary H/W Development - SDD | C/CPAF | Lockheed Martin:Ft Worth, TX | 25,935.737 | 1,643.535 | Oct 2010 | 1,747.553 | Oct 2011 | - | | 1,747.553 | 4,570.645 | 33,897.470 | 27,514.470 |
| Primary H/W Development - IDIQ (0022) | C/CPAF | Lockheed Martin:Ft Worth, TX | 6.982 | 4.937 | Oct 2010 | 4.000 | Oct 2011 | - | | 4.000 | 6.500 | 22.419 | 17.328 |
| Primary H/W Development - IDIQ (0009) | C/CPAF | Lockheed Martin:Ft Worth, TX | 16.759 | - | Sep 2011 | - | Sep 2012 | - | | - | 0.000 | 16.759 | 2,143.850 |
| Primary H/W Development - BOA(3104) | SS/CR | Lockheed Martin:Ft Worth, TX | 3.511 | - | Oct 2010 | - | Oct 2011 | - | | - | 0.000 | 3.511 | 6,668.763 |
| Primary H/W Development - SDD (3003) | SS/CPAF | Pratt & Whitney:Hartford, CT | 6,530.993 | 360.000 | Dec 2010 | 360.000 | Dec 2011 | - | | 360.000 | 916.462 | 8,167.455 | 642.155 |
| Primary H/W Development (C-0132) | SS/CPAF | Pratt & Whitney:Hartford, CT | 1.364 | - | Jan 2011 | - | Oct 2011 | - | | - | 0.000 | 1.364 | 346.694 |
| Primary H/W Development (C-0050) | SS/CPAF | Pratt & Whitney:Hartford, CT | 2.211 | - | Jan 2011 | - | Oct 2011 | - | | - | 0.000 | 2.211 | 14.450 |
| Primary H/W Development BOA(G-3053) | SS/CPAF | Pratt & Whitney:Hartford, CT | 35.983 | - | Oct 2010 | - | Oct 2011 | - | | - | 0.000 | 35.983 | |
| Primary H/W Development IDIQ (D-0077) | SS/CPAF | Pratt & Whitney:Hartford, CT | 10.925 | - | Oct 2010 | - | Oct 2011 | - | | - | 0.000 | 10.925 | |
| Primary H/W Development GE (C-0093) | SS/CPAF | GE:Cinn, Ohio | 2,086.285 | - | | - | | - | | - | 0.000 | 2,086.285 | 2,466.974 |
| Primary H/W Development GE (C-0009) | SS/CPAF | GE:Cinn, Ohio | 0.264 | - | | - | | - | | - | 0.000 | 0.264 | |
| Primary H/W Development GE (04-D-0074) | SS/CPAF | GE:Cinn, Ohio | 4.175 | - | | - | | - | | - | 0.000 | 4.175 | |
| Primary H/W Development GE (04-C-0102) | SS/CPAF | GE:Cinn, Ohio | 100.400 | - | | - | | - | | - | 0.000 | 100.400 | |
| Primary H/W Development GE (02-G-3236) | SS/CPAF | GE:Cinn, Ohio | 5.548 | - | | - | | - | | - | 0.000 | 5.548 | |
| Primary H/W Development GE (96-C-0176) | SS/CPAF | GE:Cinn, Ohio | 382.753 | - | | - | | - | | - | 0.000 | 382.753 | |
| Product Development Systems Engineering | Various | Various:Various | 253.788 | 39.264 | Oct 2010 | 45.457 | Oct 2011 | - | | 45.457 | 109.670 | 448.179 | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604800N: <i>JT Strike Fighter (JSF) - EMD</i> | PROJECT 2261: <i>Joint Strike Fighter EMD</i> |
|---|---|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| NAWC CHLK FOD | Various | NAWC:China Lake | - | - | Oct 2010 | 0.202 | Oct 2011 | - | | 0.202 | 1.653 | 1.855 | |
| NAWC PAX FOD | Various | NAWC:PAX | - | - | | 0.142 | Oct 2011 | - | | 0.142 | 1.332 | 1.474 | |
| PRIME LM FOD | Various | Lockheed Martin:Ft.Worth, TX | - | 54.845 | Oct 2010 | 32.712 | Oct 2011 | - | | 32.712 | 234.757 | 322.314 | |
| PRIME ENGINE P&W FOD | Various | Pratt & Whitney:Hartford, CT | - | 2.000 | Oct 2010 | 2.000 | Oct 2011 | - | | 2.000 | 8.000 | 12.000 | |
| Systems Engineering FOD | Various | Various:Various | - | 0.067 | Oct 2010 | 0.344 | Oct 2011 | - | | 0.344 | 2.985 | 3.396 | |
| Subtotal | | | 35,377.678 | 2,104.648 | | 2,192.410 | | - | | 2,192.410 | 5,852.004 | 45,526.740 | |

Remarks
 Note: Target Values of prime contracts differ from Total Cost because (a) Lockheed Martin and Pratt & Whitney Contracts have not been modified to reflect planned funding allocations and (b) no funds are budgeted for F136 (General Electric/Rolls Royce (GE/RR) Fighter Engine Team (FET)) beyond FY10. Cumulative Award Fee Earned in prior years for Lockheed Martin is 82.1%. Cumulative Award Fee Earned in prior years for Pratt & Whitney is 85.2%.

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Development Support | Various | Eglin AFB:Eglin AFB, FL | 90.108 | 14.873 | Oct 2010 | 14.929 | Oct 2011 | - | | 14.929 | 48.545 | 168.455 | |
| Development Support | Various | ASC/AFRL:Dayton, Ohio | 45.793 | 3.768 | Oct 2010 | 7.625 | Oct 2011 | - | | 7.625 | 39.553 | 96.739 | |
| Development Support | Various | ASC/CIVPAY:Dayton, Ohio | - | - | | 19.554 | Oct 2011 | - | | 19.554 | 126.714 | 146.268 | |
| Development Support | Various | Bolling AFB:Washington, DC | 6.775 | - | Oct 2010 | - | | - | | - | 0.000 | 6.775 | |
| Development Support | Various | DEMA:Various | 4.112 | 10.000 | Oct 2010 | 25.500 | Oct 2011 | - | | 25.500 | 0.000 | 39.612 | |
| Development Support | MIPR | ESC:Hanscom AFB, MA | 6.848 | 0.305 | Oct 2010 | 0.376 | Oct 2011 | - | | 0.376 | 0.480 | 8.009 | |
| Development Support | Various | AEDC/Fuel:Arnold , TN | 131.403 | 38.063 | Oct 2010 | 58.764 | Oct 2011 | - | | 58.764 | 58.230 | 286.460 | |
| Development Support | WR | | 6.323 | 1.632 | Oct 2010 | 1.985 | Oct 2011 | - | | 1.985 | 6.255 | 16.195 | |

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604800N: <i>JT Strike Fighter (JSF) - EMD</i> | PROJECT 2261: <i>Joint Strike Fighter EMD</i> |
|---|---|---|

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|--|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| | | NAS Jacksonville: Jacksonville, FL | | | | | | | | | | | |
| Development Support | Various | Various: Various | 206.823 | 21.100 | Oct 2010 | 21.298 | Oct 2011 | - | | 21.298 | 46.457 | 295.678 | |
| Development Support | Various | NAWC WD: China Lake, CA | 93.603 | 28.874 | Oct 2010 | 33.068 | Oct 2011 | - | | 33.068 | 56.887 | 212.432 | |
| Development Support | Various | NAWC AD: Patuxent River, MD | 267.856 | 37.606 | Oct 2010 | 51.057 | Oct 2011 | - | | 51.057 | 122.972 | 479.491 | |
| Development Support | Various | NAWC TSD: Orlando, FL | 7.750 | 1.585 | Oct 2010 | 2.362 | Oct 2011 | - | | 2.362 | 4.854 | 16.551 | |
| Development Support | WR | NSWC: Indian Head, MD | 3.360 | 0.455 | Oct 2010 | 0.572 | Oct 2011 | - | | 0.572 | 0.190 | 4.577 | |
| Development Support | Various | SPAWAR: San Diego, CA | 6.525 | 0.030 | Oct 2010 | 0.038 | Oct 2011 | - | | 0.038 | 0.134 | 6.727 | |
| Prior Years costs no longer funded in FYDP | Various | SIBR Cong ADD: Various | 24.187 | - | | - | | - | | - | 0.000 | 24.187 | |
| MISC/OTHER FOD | Various | Various: Various | - | - | Oct 2010 | 0.063 | Oct 2011 | - | | 0.063 | 0.147 | 0.210 | |
| NAWC CHLK FOD | Various | Various: Various | - | 0.327 | Oct 2010 | 0.494 | Oct 2011 | - | | 0.494 | 15.223 | 16.044 | |
| NAWC PAX FOD | Various | Various: Various | - | 0.485 | Oct 2010 | 1.917 | Oct 2011 | - | | 1.917 | 28.279 | 30.681 | |
| Subtotal | | | 901.466 | 159.103 | | 239.602 | | - | | 239.602 | 554.920 | 1,855.091 | |

Remarks

When Various/Various appears in the Contract Method/Type or Funding Vehicle it is normally because Air Force and Navy and sometimes international funding is going to the same site on various funding document types.

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Development Test & Evaluation | Various | NAWCAD: Patuxent River, MD | 226.209 | 121.877 | Oct 2010 | 130.731 | Oct 2011 | - | | 130.731 | 732.191 | 1,211.008 | |
| | Various | | 16.220 | 11.409 | Oct 2010 | 11.637 | Oct 2011 | - | | 11.637 | 23.771 | 63.037 | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604800N: <i>JT Strike Fighter (JSF) - EMD</i> | PROJECT 2261: <i>Joint Strike Fighter EMD</i> |
|---|---|---|

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Development Test & Evaluation | | NAWCWD:China Lake, CA | | | | | | | | | | | |
| Development Test & Evaluation | PO | Edwards AFB:CA | 283.450 | 86.850 | Oct 2010 | 94.841 | Oct 2011 | - | | 94.841 | 256.139 | 721.280 | |
| Development Test & Evaluation | Various | Various:Various | 15.691 | 19.395 | Oct 2010 | 26.441 | Oct 2011 | - | | 26.441 | 28.050 | 89.577 | |
| Development Test & Evaluation | MIPR | WEPS:Eglin AFB, FL | 20.485 | 14.150 | Oct 2010 | 2.600 | Oct 2011 | - | | 2.600 | 2.800 | 40.035 | |
| Development Test & Evaluation | MIPR | OT-AFOTEC/ AFFTC:Eglin AFB, FL | 78.482 | 23.819 | Oct 2010 | 52.200 | Oct 2011 | - | | 52.200 | 382.840 | 537.341 | |
| Development Test & Evaluation | Various | OT-JITC/ OPTEV:Various | 3.841 | 3.500 | Oct 2010 | 4.700 | Oct 2011 | - | | 4.700 | 35.214 | 47.255 | |
| Development Test & Evaluation | Various | JITC:Various | 0.503 | - | | - | | - | | - | 0.000 | 0.503 | |
| Subtotal | | | 644.881 | 281.000 | | 323.150 | | - | | 323.150 | 1,461.005 | 2,710.036 | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Program Management | SS/CPFF | ACT 1:Arlington, VA | 2.981 | 2.833 | Oct 2010 | 3.418 | Oct 2011 | - | | 3.418 | 12.872 | 22.104 | 21.072 |
| Program Management - Mantech | C/FP | Mantech:Arlington, VA | 42.487 | 7.015 | Oct 2010 | 8.366 | Oct 2011 | - | | 8.366 | 35.336 | 93.204 | 88.233 |
| Program Management - PA Consulting | SS/CPFF | PA Consulting:Arlington, VA | - | - | Oct 2010 | - | Oct 2011 | - | | - | 0.000 | 0.000 | 15.486 |
| Program Management - DRC | C/CPFF | DRC:Arlington, VA | 5.916 | 3.000 | Oct 2010 | - | | - | | - | 0.000 | 8.916 | 8.676 |
| Program Management | C/CPFF | First Principles:Arlington, VA | 1.398 | 1.523 | Oct 2010 | 1.936 | Oct 2011 | - | | 1.936 | 4.105 | 8.962 | 6.871 |
| Program Management | Various | ASC CIVPAY:VARIOUS | - | - | | 3.500 | Oct 2011 | - | | 3.500 | 21.000 | 24.500 | |
| Program Management | C/CPFF | Wyle:Arlington, VA | 78.871 | 19.305 | Oct 2010 | 27.418 | Oct 2011 | - | | 27.418 | 93.283 | 218.877 | 197.674 |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604800N: <i>JT Strike Fighter (JSF) - EMD</i> | PROJECT 2261: <i>Joint Strike Fighter EMD</i> |
|---|---|---|

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Program Management | C/CPAF | Saftas:Arlington, VA | 77.789 | 18.200 | Oct 2010 | 26.600 | Oct 2011 | - | | 26.600 | 91.000 | 213.589 | 191.562 |
| Program Management | C/CPAF | Stanley:Arlington, VA | 131.456 | 19.800 | Oct 2010 | 27.940 | Oct 2011 | - | | 27.940 | 97.660 | 276.856 | 235.299 |
| Program Management | C/CPFF | GE F136-COG Studies:Cinn, Ohio | 0.800 | - | Sep 2011 | - | Sep 2012 | - | | - | 0.000 | 0.800 | 21.040 |
| Travel and Miscellaneous | Various | Various:Various | 11.740 | 3.802 | Oct 2010 | 4.269 | Oct 2011 | - | | 4.269 | 17.392 | 37.203 | |
| Subtotal | | | 353.438 | 75.478 | | 103.447 | | - | | 103.447 | 372.648 | 905.011 | |

Remarks
Cumulative Award Fee Earned in prior years for Stanley is 99%.

| | Total Prior Years Cost | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|--------------------------------|-------------------------------|----------------|---------------------|--------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Subtotals | 37,277.463 | 2,620.229 | 2,858.609 | - | 2,858.609 | 8,240.577 | 50,996.878 | |
| Air Force | | 1,043.610 | 1,387.926 | - | 1,387.926 | | | |
| Marine Corps | | 667.916 | 670.723 | - | 670.723 | | | |
| International | | 200.912 | 122.474 | - | 122.474 | | | |
| Congressional Add | | - | - | - | - | | | |
| Navy Project 3194 | | 39.876 | 26.713 | - | 26.713 | | | |
| Project Cost Totals | 37,277.463 | 667.915 | 650.773 | - | 650.773 | 8,240.577 | 50,996.878 | |

Remarks
Subtotals and totals may not add due to rounding.
Note: Target Values of prime contracts differs from Total Cost because (a) Lockheed Martin and Pratt & Whitney Contracts have not been modified to reflect planned funding allocations and (b) no funds are budgeted for F136 (FET GE/RR) beyond FY10. Total prior year affects actual funds executed.

The following table presents the total dollars distributed in the R2a and R3. This has been done to give a more accurate picture of the total dollars being spent on each task. The Department of the Navy (DoN) funding profile as identified below reflects current execution budget adjustments to include significant Below Threshold Reprogrammings and Small Business Innovation Research reductions.

| Name | PE | PU | FY 10 | FY 11 | FY 12 |
|-----------|----------|------|-----------|-----------|-----------|
| Navy | 0604800N | 2261 | 1,641.069 | 667.915 | 650.773 |
| Air Force | 0604800F | 3831 | 2,033.521 | 1,043.610 | 1,387.926 |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604800N: <i>JT Strike Fighter (JSF) - EMD</i> | PROJECT 2261: <i>Joint Strike Fighter EMD</i> |
|---|---|---|

| | Total Prior Years Cost | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|------------------------|---------|--------------|-------------|---------------|------------------|------------|--------------------------|
| Marine Corps 0604800M 2262 0 667.916 670.723 | | | | | | | | |
| International (SDD/FOD) 161.511 200.912 122.474 | | | | | | | | |
| Cong Add* 0604800N 2261A 214.108 0 0 | | | | | | | | |

Total Funding 4,081.207 2,620.229 2,858.609

*Navy Cong Add Alt Engine funding is included in the PU 2261 Exhibits as well as the Cong Add exhibit.

| Name | PU | FY 10 | FY 11 | FY 12 |
|------|------|--------|--------|--------|
| Navy | 3194 | 30.998 | 39.876 | 26.713 |

Total 0604800N under separate PUs: 30.998 39.876 26.713

Total F-35 funding associated with PEs 0604800N, 0604800F and 0604800M: 3,919.696 2,419.317 2,736.135

UNCLASSIFIED

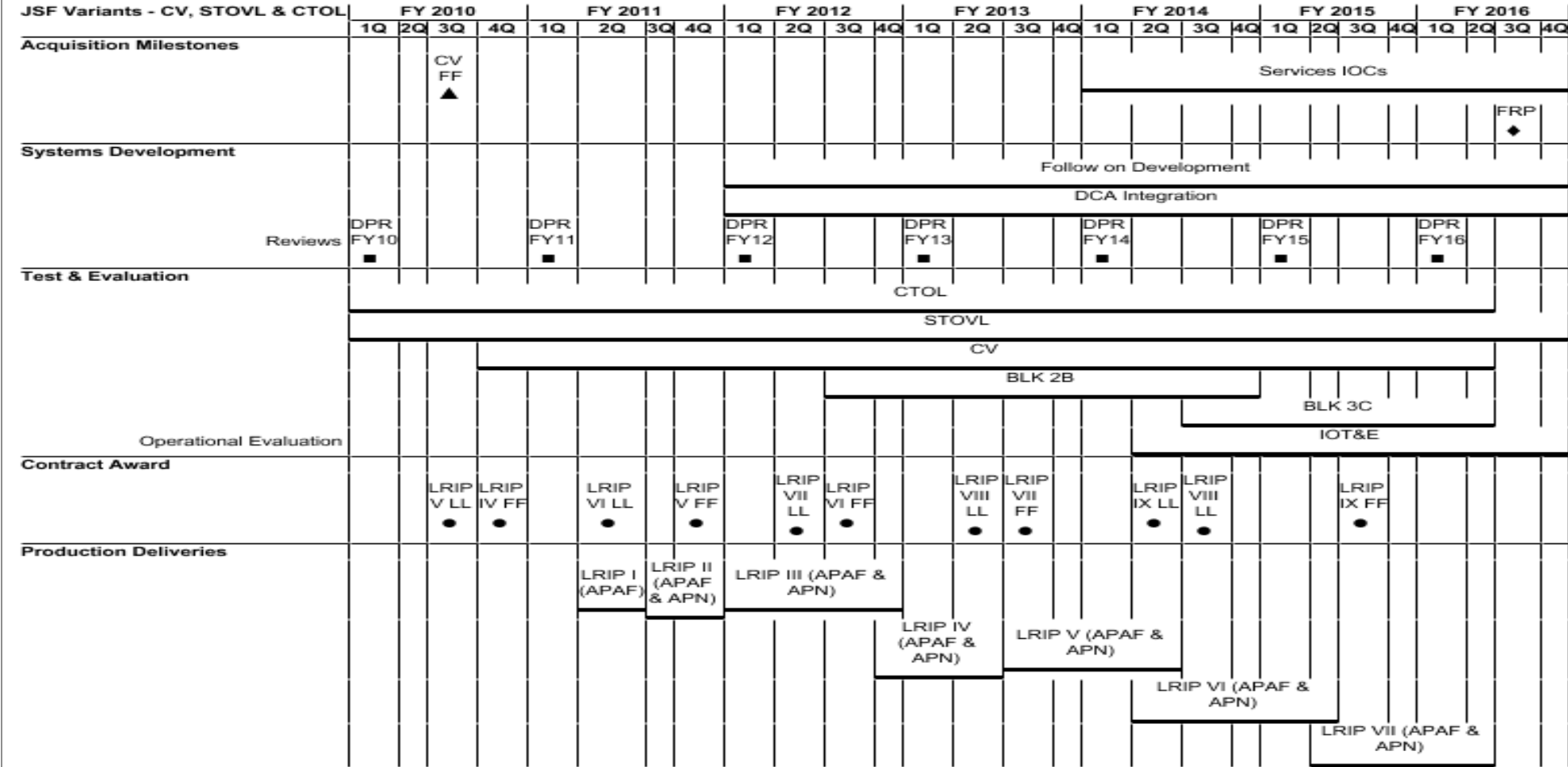
Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY
 1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE
 PE 0604800N: *JT Strike Fighter (JSF) - EMD*

PROJECT
 2261: *Joint Strike Fighter EMD*



UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy DATE: February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604800N: <i>JT Strike Fighter (JSF) - EMD</i> | PROJECT 2261: <i>Joint Strike Fighter EMD</i> |
|---|---|---|

| | | |
|--------------------------|--|------------------------------|
| 2012PB - 0604800N - 2261 | | LRIP VIII (APAF & APN) |
|--------------------------|--|------------------------------|

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604800N: <i>JT Strike Fighter (JSF) - EMD</i> | PROJECT 2261: <i>Joint Strike Fighter EMD</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| <i>JSF Variants - CV, STOVL & CTOL</i> | | | | |
| Acquisition Milestones: Carriver Variant First Flight | 3 | 2010 | 3 | 2010 |
| Acquisition Milestones: Services Initial Operating Capability | 1 | 2014 | 4 | 2016 |
| Acquisition Milestones: Full Rate Production Decision Review | 3 | 2016 | 3 | 2016 |
| Systems Development: Follow-on Development | 1 | 2012 | 4 | 2016 |
| Systems Development: Dual Capability Aircraft Integration | 1 | 2012 | 4 | 2016 |
| Systems Development: Reviews: Defense Acquisition Board Program Reviews (DPRs) FY10 | 1 | 2010 | 1 | 2010 |
| Systems Development: Reviews: DPR FY11 | 1 | 2011 | 1 | 2011 |
| Systems Development: Reviews: DPR FY12 | 1 | 2012 | 1 | 2012 |
| Systems Development: Reviews: DPR FY13 | 1 | 2013 | 1 | 2013 |
| Systems Development: Reviews: DPR FY14 | 1 | 2014 | 1 | 2014 |
| Systems Development: Reviews: DPR FY15 | 1 | 2015 | 1 | 2015 |
| Systems Development: Reviews: DPR FY16 | 1 | 2016 | 1 | 2016 |
| Test & Evaluation: Conventional Take Off and Landing (CTOL) | 1 | 2010 | 2 | 2016 |
| Test & Evaluation: Short Take Off and Landing (STOVL) | 1 | 2010 | 4 | 2016 |
| Test & Evaluation: Carrier Variant (CV) | 4 | 2010 | 2 | 2016 |
| Test & Evaluation: Block 2B | 3 | 2012 | 4 | 2014 |
| Test & Evaluation: Block 3C | 3 | 2014 | 2 | 2016 |
| Test & Evaluation: Operational Evaluation: Initial Operational Test & Evaluation | 2 | 2014 | 4 | 2016 |
| Contract Award: Low Rate Initial Production (LRIP) IV Full Funding | 4 | 2010 | 4 | 2010 |
| Contract Award: LRIP V Long Lead | 3 | 2010 | 3 | 2010 |
| Contract Award: LRIP V Full Funding | 4 | 2011 | 4 | 2011 |

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604800N: <i>JT Strike Fighter (JSF) - EMD</i> | PROJECT 2261: <i>Joint Strike Fighter EMD</i> |

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Contract Award: LRIP VI Long Lead | 2 | 2011 | 2 | 2011 |
| Contract Award: LRIP VI Full Funding | 3 | 2012 | 3 | 2012 |
| Contract Award: LRIP VII Long Lead | 2 | 2012 | 2 | 2012 |
| Contract Award: LRIP VII Full Funding | 3 | 2013 | 3 | 2013 |
| Contract Award: LRIP VIII Long Lead | 2 | 2013 | 2 | 2013 |
| Contract Award: LRIP VIII Full Funding | 3 | 2014 | 3 | 2014 |
| Contract Award: LRIP IX Long Lead | 2 | 2014 | 2 | 2014 |
| Contract Award: LRIP IX Full Funding | 3 | 2015 | 3 | 2015 |
| Production Deliveries: LRIP I (APAF) | 2 | 2011 | 2 | 2011 |
| Production Deliveries: LRIP II (APAF & APN) | 3 | 2011 | 4 | 2011 |
| Production Deliveries: LRIP III (APAF & APN) | 1 | 2012 | 4 | 2012 |
| Production Deliveries: LRIP IV (APAF & APN) | 4 | 2012 | 2 | 2013 |
| Production Deliveries: LRIP V (APAF & APN) | 3 | 2013 | 2 | 2014 |
| Production Deliveries: LRIP VI (APAF & APN) | 2 | 2014 | 2 | 2015 |
| Production Deliveries: LRIP VII (APAF & APN) | 2 | 2015 | 2 | 2016 |
| Production Deliveries: LRIP VIII (APAF & APN) | 2 | 2016 | 4 | 2016 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | | | | R-1 ITEM NOMENCLATURE | | | | PROJECT | | | |
|---|---------|---------|--------------|---|---------------|---------|---------|---|---------|------------------|------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | PE 0604800N: <i>JT Strike Fighter (JSF) - EMD</i> | | | | 3194: <i>Joint Reprogramming Center</i> | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| 3194: <i>Joint Reprogramming Center</i> | 30.998 | 39.876 | 26.713 | - | 26.713 | 19.473 | - | - | - | 0.000 | 117.060 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

The United States Research Laboratory (USRL)/Capability Concept project, previously referred to as the JSF Joint Reprogramming Center (JRC)/Capability Concept is required to adequately develop and maintain Operational Sensor Engineering F-35(V) Mission Data to support United States Navy (USN), United States Marine Corps (USMC), and United States Air Force (USAF) multi-mission objectives. USRL will allow rapid operational response to threat changes. Funding for this project unit (PU) (3194) is provided specifically for:

- Aircraft sensor function and combat identification
- Conducting Offensive Identification/Jamming of potential threats
- Providing self defense against surface threats, air, and missile threats
- Detecting and identifying targets, to include moving land, air, and missile targets
- Providing mission planning to ensure aircraft survivability
- Conducting offensive operations against surface threats
- Conducting sensor management and information processing
- Software development for this requirement is funded through the F-35 Joint Strike Fighter SDD baseline

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|---|-------------|-------------|-------------|
| <p>Title: USRL Build Up</p> <p style="text-align: right;">Articles:</p> <p>FY 2010 Accomplishments: Provided funds to Lockheed Martin Aero in support of reprogramming techniques, development and verification capacity required to adjust to emergent threats, and validate system effectiveness to increase survivability of the weapon system.</p> <p>FY 2011 Plans: Provide funds to Lockheed Martin Aero in support of reprogramming techniques, development and verification capacity required to adjust to emergent threats, and validate system effectiveness to increase survivability of the weapon system.</p> <p>FY 2012 Plans:</p> | 25.365 0 | 29.876 0 | 14.213 0 |

UNCLASSIFIED

| | |
|--|----------------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | DATE: February 2011 |
|--|----------------------------|

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604800N: <i>JT Strike Fighter (JSF) - EMD</i> | PROJECT 3194: <i>Joint Reprogramming Center</i> |
|---|---|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| Provide funds to Lockheed Martin Aero in support of reprogramming techniques, development and verification capacity required to adjust to emergent threats, and validate system effectiveness to increase survivability of the weapon system. Perform USRL Stand-up testing and acceptance tasks. | | | |
| Title: Development Support | 5.633 | 10.000 | 12.500 |
| Articles: | 0 | 0 | 0 |
| FY 2010 Accomplishments: Continued System Design and Demonstration (SDD) Systems Engineering (SE) including systems operations requirements analysis, program integration, requirements integration, and interoperability support of the USRL (previously called the Joint Reprogramming Center). | | | |
| FY 2011 Plans: Continue SDD SE including systems operations requirements analysis, program integration, requirements integration, and interoperability support of the United States Reprogramming Laboratory USRL. | | | |
| FY 2012 Plans: Continue SDD SE including systems operations requirements analysis, program integration, requirements integration, and interoperability support of the USRL. | | | |
| Accomplishments/Planned Programs Subtotals | 30.998 | 39.876 | 26.713 |

C. Other Program Funding Summary (\$ in Millions)
N/A

D. Acquisition Strategy
The Joint Reprogramming Capability is a subset of the JSF Program and falls within the JSF acquisition strategy. JRC is needed to support scheduled Initial Operational Capability dates (and supporting test activity) for the three JSF variants. To that end, a concept of operations is being developed for JRC to address Mission Data development and verification/validation/testing and to merge service unique requirements into Joint processes/procedures. Previously envisaged as a single facility, JRC now is comprised of two distinct facilities under the JRC concept. The USRL will support U.S. Joint Service reprogramming requirements; the Partner Reprogramming Laboratory will focus on International Partner areas of interest.

Inter-Service collaboration is ongoing to formalize the USRL requirements planning process and will eliminate duplication of effort, will maximize technology to improve configuration control, will employ advance networks, and will ensure the implementation of an enterprise (single shared database) solution. By capitalizing on legacy platform synergy, operational mission data intellect, proven processes, and existing reprogramming center resources, this approach also will improve efficiencies. A Joint Command reprogramming authority will determine/manage reprogramming priorities and implementation authority.

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604800N: <i>JT Strike Fighter (JSF) - EMD</i> | PROJECT 3194: <i>Joint Reprogramming Center</i> |

USRL Mission data development strategy is based upon an assessment of legacy systems, F-22 data, corporate expertise of Eglin/Pt Mugu personnel, adjusted cost and schedule projections keyed to complexity of multi-variant and multi-mission aircraft, JSF-specific utilization of multiple sources of non-sustained disparate, raw, intelligence data, development of threat assessment - metrics and build-up of real-world scenarios for systems verification and validation. These efforts support JSF operational requirements, interoperability, and fratricide mitigation.

Although the F-35 JSF SDD Program has contracted with Lockheed Martin (LM) and Pratt & Whitney for the SDD of the JSF, LM does not have the laboratory space availability or expertise to perform operational evaluation of lab and flight test data and support field recommendations to the level needed. The complexity and magnitude of JSF mission data loads drives the decision to utilize government and contractor resources to design and develop a joint-Service reprogramming facility at Eglin Air Force Base.

E. Performance Metrics

USRL Stand-up - 3rd Quarter FY 12

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604800N: <i>JT Strike Fighter (JSF) - EMD</i> | PROJECT 3194: <i>Joint Reprogramming Center</i> |
|---|---|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Primary H/W Development | C/CPAF | Lockheed Martin:Ft. Worth, Texas | 55.184 | 28.624 | Oct 2010 | 8.206 | Oct 2011 | - | | 8.206 | 6.423 | 98.437 | 50.266 |
| Primary H/W Development Award Fee | C/CPAF | Lockheed Martin:Ft. Worth, Texas | - | 1.252 | Sep 2011 | 6.007 | Sep 2012 | - | | 6.007 | 0.250 | 7.509 | 7.509 |
| Subtotal | | | 55.184 | 29.876 | | 14.213 | | - | | 14.213 | 6.673 | 105.946 | 57.775 |

Remarks
Target Value of Contract differs from Total cost because the Lockheed Martin contract has not been modified to reflect planned funding allocation.

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Development Support | WR | NAWCWD:China Lake California | 8.633 | 10.000 | Oct 2010 | 12.500 | Oct 2011 | - | | 12.500 | 12.800 | 43.933 | |
| Subtotal | | | 8.633 | 10.000 | | 12.500 | | - | | 12.500 | 12.800 | 43.933 | |

| | Total Prior Years Cost | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|-------------------------------|----------------|--------|---------------------|--------|--------------------|---|----------------------|-------------------------|-------------------|---------------------------------|
| Project Cost Totals | | 63.817 | 39.876 | | 26.713 | | - | 26.713 | 19.473 | 149.879 | |

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604800N: <i>JT Strike Fighter (JSF) - EMD</i> | PROJECT 3194: <i>Joint Reprogramming Center</i> |
|---|---|---|

| JSF United States Research Laboratory | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | | | | | |
|---|--|----|--------------|----|---------------------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|--|--|--|--|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | | | | |
| MILCON at Eglin AFB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| USRL | Facility Const | | Facil Accred | | HW Installation | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| USRL Implementation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| USRL Standup | (USRL) Design Verification and Validation Facility (WF) and Reprogramming Facility (RF) Work station | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Electronic Warfare Verificatin Station | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Development | | | | Integration/Install | | | | | | | | ATP | | | | | | | | | | | | | | | | | | | |

2012PB - 0604800N - 3194

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|---|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604800N: <i>JT Strike Fighter (JSF) - EMD</i> | PROJECT 3194: <i>Joint Reprogramming Center</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| <i>JSF United States Research Laboratoty (USRL)</i> | | | | |
| MILCON at Eglin AFB: USRL: Facility Construction | 1 | 2010 | 3 | 2010 |
| MILCON at Eglin AFB: USRL: Facility Accreditation | 4 | 2010 | 4 | 2010 |
| MILCON at Eglin AFB: USRL: Hardware Installation | 1 | 2011 | 1 | 2012 |
| USRL Implementation: USRL Standup: USRL Standup | 3 | 2012 | 3 | 2012 |
| USRL Implementation: USRL Standup: USRL Design Verification and Validation Facility (WF) and Reprogramming Facility (RF) Work station development, integration, and ready to standup | 1 | 2010 | 1 | 2012 |
| Electronic Warfare Verificatin Station: Development | 1 | 2010 | 4 | 2010 |
| Electronic Warfare Verificatin Station: Integration/Install | 1 | 2011 | 4 | 2012 |
| Electronic Warfare Verificatin Station: AcceptanceTest Program (ATP) | 1 | 2013 | 2 | 2013 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0604800N: <i>JT Strike Fighter (JSF) - EMD</i> | PROJECT 9999: <i>Congressional Adds</i> |
|---|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 9999: <i>Congressional Adds</i> | 214.108 | - | - | - | - | - | - | - | - | 0.000 | 214.108 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Congressional Add.

B. Accomplishments/Planned Programs (\$ in Millions)

| | | |
|---|---------|---------|
| Congressional Add: Maintain Dev Of 2nd Source For Engine | FY 2010 | FY 2011 |
| <i>FY 2010 Accomplishments:</i> Continued development of 2nd source by F-35 Lightning II engine General Electric/Fighter Engine Team and Government Team. Funding continued the Fighter Engineering Team (General Electric/Rolls Royce) F136 development for a second, interchangeable, Joint Strike Fighter engine for competition in production (previously begun in associated Program Element 0603800F). Efforts included technical technology maturation, engine testing, autonomic logistics and integration. | 214.108 | - |
| Congressional Adds Subtotals | 214.108 | - |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

Not required for Congressional Add.

E. Performance Metrics

Not required for Congressional Add.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | | | R-1 ITEM NOMENCLATURE | | | | | | | | |
|---|----------------|----------------|---|--------------------|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> | | | PE 0605013M: <i>Marine Corps IT Dev/Mod</i> | | | | | | | | |
| BA 5: <i>Development & Demonstration (SDD)</i> | | | | | | | | | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| Total Program Element | 9.978 | 22.783 | 27.461 | - | 27.461 | 20.605 | 15.769 | 18.363 | 18.118 | Continuing | Continuing |
| 2906: <i>Marine Corps IT</i> | 9.978 | 22.783 | 27.461 | - | 27.461 | 20.605 | 15.769 | 18.363 | 18.118 | Continuing | Continuing |

A. Mission Description and Budget Item Justification

This program establishes, sustains, and continuously refines computing platforms and Information Technology (IT) services as tested, certified and reusable components of a Marine Corps IT framework that spans the range of military operations.

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 9.827 | 22.783 | 25.948 | - | 25.948 |
| Current President's Budget | 9.978 | 22.783 | 27.461 | - | 27.461 |
| Total Adjustments | 0.151 | - | 1.513 | - | 1.513 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | 0.393 | - | | | |
| • SBIR/STTR Transfer | -0.242 | - | | | |
| • Program Adjustments | - | - | 1.688 | - | 1.688 |
| • Rate/Misc Adjustments | - | - | -0.175 | - | -0.175 |

Change Summary Explanation

The FY12 RDT&E increase reflects the software development and testing activities to support the stabilization of the Manpower Assignment Support System (MASS) in the Manpower Operation Systems (MOS) portfolio; it also reflects the USMC commitment to fund the DoD Defense Readiness Reporting System (DRRS) R&D effort.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | R-1 ITEM NOMENCLATURE PE 0605013M: <i>Marine Corps IT Dev/Mod</i> | | | | PROJECT 2906: <i>Marine Corps IT</i> | | | |
|---|----------------|----------------|---------------------|---|----------------------|----------------|----------------|--|----------------|-------------------------|-------------------|
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| 2906: <i>Marine Corps IT</i> | 9.978 | 22.783 | 27.461 | - | 27.461 | 20.605 | 15.769 | 18.363 | 18.118 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

DEFENSE MESSAGE SYSTEM (DMS) and follow-on/replacement systems, as directed by the Joint Staff and HQMC Command, Control, Communications and Computers (C4), meet the organizational messaging requirement for all classification levels from GENSER through Top Secret/Sensitive Compartmented Information (TS/SCI). Telos Automated Message Handling System (AMHS) is the current implementation that provides Web-interface for system administration and for user messaging (including readers). Organizational messages are used to direct and commit resources, provide user authentication, non-repudiation, confidentiality, and integrity. It also maintains an archive and retrospective search capability to the warfighter and requires security at the Class 4 level (currently implemented with Fortezza and Certificate Authority Workstations). The Defense Information Systems Agency (DISA) is the lead agency and Global System Manager (GSM) for DMS products. The Department of Defense Intelligence Information System (DODIIS) is the Operations Manager for the Intelligence Community (IC) to support TS/SCI messaging. Within the Marine Corps, there are two distinct acquisition efforts to field DMS to strategic and tactical communication centers to all classification levels. Additionally ongoing efforts at the service and DISA level to transition from the DMS system to alternative mechanisms for the transfer of organizational information. Authorized Acquisition Objective (AAO) 100. FY12 R&D for DMS will continue research and analysis through 2012 to assist in the transition to the next generation DMS occurring between FY12-15 in order to test and certify possible organizational messaging solutions/capabilities that are DISA compliant.

MARINE CORPS TRAINING INFORMATION MANAGEMENT SYSTEM (MCTIMS) replaced the mainframe program By Name Assignment, which managed all Marine Corps school seats and interfaced with other service's school seat management programs. MCTIMS is the Marine Corps' official program of record for training and education management and is the single data source, which the Training and Education Command relies on to manage training personnel, training seats, students, and other training resources. MCTIMS is the enterprise application upon which standards based instruction, education, and training is built, delivered, tracked, and evaluated. MCTIMS will be establishing the unit training management module for all ground forces. This module will provide commanders an enterprise level application, which brings standardization in planning and scheduling training, recording of training against units and individual Marines, provides training assessments and reports combat readiness to Department of Defense (DOD) systems. FY12 R&D efforts planned for MCTIMS are the requirements gathering and development of the Web-Enable Electronic Roadmaps Module.

MANPOWER OPERATIONS SYSTEMS (MOS) is a portfolio of enterprise IT systems and modules that support manpower business operations for the Total Force (active and reserve). The investment in the portfolio improves dataflow and increases reliability, functionality, and accuracy of data while reducing the manpower required to operate and maintain these systems/operations. Development is partially driven by regulatory and policy changes mandated by Congress, DOD, Department of the Navy (DON), and United States Marine Corps (USMC). These systems support all five tiers of Manpower: 1) Individual Marine, 2) Small Unit Leader; 3) Unit, 4) Installation Personnel Administration Center (IPAC)/Disbursing Echelon, and 5) Headquarters Marine Corp (HQMC) Manpower and Reserve Affairs (M&RA)/ Defense Finance and Accounting Service. The MOS portfolio provides support in functional areas such as permanent change of station assignments, retention, mobilization, manpower planning, line of duty determination, personnel accountability, individual augmentation, personnel records management and maintenance, management of case incidents, civilian professional development planning, pay entitlement determinations, promotion and performance evaluations and self service/

UNCLASSIFIED

UNCLASSIFIED

| | |
|--|----------------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | DATE: February 2011 |
|--|----------------------------|

| APPROPRIATION/BUDGET ACTIVITY | R-1 ITEM NOMENCLATURE | PROJECT |
|---|---|------------------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | PE 0605013M: <i>Marine Corps IT Dev/Mod</i> | 2906: <i>Marine Corps IT</i> |

visibility of personnel data. MOS programs interface with other systems to provide manpower data and web services functionality for pay and personnel transactions between systems. Systems in the portfolio include Manpower Assignment Support System (MASS), Performance Evaluation System, Total Force Retention System, Optical Digital Imaging - Records Management System, Class I/II/III (composed of Child and Spouse Abuse, Sexual Assault Incident Reporting Database, and Rape and Sexual Assault), Marine Corps Medical Entitlements Data System, Civilian Workforce Development Application, Manpower Mobilization Assignment System, and the Total Force Administration System (TFAS) (composed of Marine On-Line, the Secure Personnel Accountability (SPA) Module, the Drill Management Module (DMM), the Case Management Module (CMM) and Marine Reserve Order Writing System Web-enabled). FY12 R&D efforts for Manpower Operations Systems are to continue MASS software development and developmental testing.

MARINE CORPS ENTERPRISE INFORMATION TECHNOLOGY SERVICES (MCEITS) will provide an overarching portfolio of capabilities to deliver "Power to the Edge" for the Marine Corps. Born from an effort to establish a Continuity of Operations Plan of HQMC Automated Information Systems, MCEITS will realign the existing USMC environment of applications, databases, networks, and facilities into an integrated architecture of programs to deliver new information technology capabilities based on a common infrastructure and shared services. MCEITS is a unifying framework of both the Net-Centric Enterprise Services (NCES) to be delivered, and the infrastructure and systems which must be deployed to enable delivery of those services. Initially it will encompass the Operational, Technical and Systems architectures of the garrison environment. However, ultimately it will extend to transform Command and Control (C2) both in garrison and in the deployed environment. Combined with policy, procedure and standards provided by HQMC (C4), MCEITS will allow for architectural standardization, consolidated management, and seamless interoperability of and access to the data residing in currently fielded applications (business and tactical). Testing efforts will be focused on MCEITS Portal and MCEITS provided services operating within a Service Oriented Architecture environment. MCEITS will ensure the ability to host services and applications in a Web Services enabled environment. MCEITS will also ensure NCES services are able to be federated throughout the Marine Corps to include Content Discover and Delivery, Collaboration and Text Chat, between the service consumer and provider. FY12 for MCEITS will focus on completion of Incremental II integration and testing in preparation for Full Operational Capability (FOC) with continued P3I efforts.

MANPOWER PLANNING SYSTEMS (MPS) is a portfolio consisting of three systems; the legacy Manpower Models, the Total Force Data Warehouse, and the replacement effort of the legacy Manpower Models. This portfolio provides the tools and data to support the creation of active and reserve modeling of accession, recruiting, training, classification, retention, promotion, mobilization, distribution, and assignment plans. The funding in MPS will provide the technical solution for process improvement and will strategically align manpower systems/functional process with the C4 architecture. MPS interfaces with other systems to utilize manpower data in model analysis and future year planning efforts. FY12 R&D for Manpower Planning Systems will continue the development of the replacement effort of the legacy Manpower Models.

MARINE CORPS RECRUITING INFORMATION SUPPORT SYSTEM (MCRISS) is an enterprise level system to automate administrative procedures for the recruiting station operations. This customized automated System, centered on procedures in the Guidebook for Recruiters, Volume I, will dramatically improve efficiency and effectiveness in Marine Corps recruiting. Furthermore, Military Entrance Processing Command requires Marine Corps recruiting to provide information in electronic format only. MCRISS is the Marine Corps Recruiting Command's program to manage applicant processing from commitment to accession/commission into the Marine Corps and Marine Corps Reserve. This enterprise approach allows for efficient sharing of information about potential recruits and recruiter screening efforts, yielding a more cost effective process. In FY12, funding supports the development of MCRISS Virtual Interactive Processing System (VIPS) 2. The intent of VIPS 2 is to modernize MCRISS' VIPS in concert with MEPCOM's VIPS.

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013M: <i>Marine Corps IT Dev/Mod</i> | PROJECT 2906: <i>Marine Corps IT</i> |
|---|---|--|

TOTAL FORCE STRUCTURE MANAGEMENT SYSTEM (TFSMS) is the Marine Corps authoritative data source for force structure data and provider of the Marine Corps" Tables of Organization and Equipment. TFSMS defines present and future Marine Corps force structure, establishes the Marine Corps baseline for readiness reporting, justifies resource requirements and allocation and enables Marine Corps compliance with the Joint Staff and Office of the Secretary Defense initiative to standardize force structure representation by providing the Marine Corps Global Force Management Organizational Server. Increment II development begins in FY11 with the first major software release of Increment II occurring in FY12. The TFSMS Increment II Capability Development Document (CDD) defines the requirements and expectations for Initial Operational Capability (IOC) and FOC. FOC is schedule for FY16. FY12 R&D for TFSMS includes the first Increment II software release for the Systems Integration efforts, v3.0 is scheduled for the 3rd Qtr FY12. System Integration efforts will continue.

SECURE INTERNET PROTOCOL ROUTER NETWORK (SIPRNET) INFRASTRUCTURE will provide critical infrastructure and operational capabilities that are secure and reliable, enabling command and control from the headquarters to the lowest tactical edge. SONIC will update the current aging classified IT infrastructure and support full Marine Corps" control over its C2 operational network by providing continuity, high availability, disaster recovery, and enhanced secure access to services and data.

DEFENSE READINESS REPORTING SYSTEM (DRRS-MC) is the next generation of Marine Corps authoritative system for force registration and readiness reporting. The DRRS-MC is a web-based and net-centric system providing readiness reporting via the NetUSR-MC (input) tool, enabling units to register and report their training, equipment (including Chemical, Biological, Radiological and Nuclear [CBRN]); personnel; missions and mission essential tasks (METs) readiness status. The Marine Readiness Management Output Tool (MRMOT) allows users to view current and historical readiness information using graphical user interface screens to efficiently display information. MRMOT is an executive information system in that it begins at a summary level and allows a "drill-down" capability to access detailed readiness information. FY12 funding will also support the Global Force Management-Data Initiative to consume Force Structure from Marine Corps Org Server (MCOS); conduct mapping, link and maintain OUID and UIC relationships.

PAPERLESS OFFICE/ACQUISITION funding supports development and enhancement of PR Builder which is the Marine Corps enterprise solution for the electronic generation of purchase requests and serves as the front-end system for feeding the DOD enterprise contracting writing system SPS. Development and enhancement of PR Builder is required to ensure financial and contracting functional requirements and Marine Corps business processes are developed, designed, tested and implemented within the system. PR Builder is also undergoing requirements definition and estimation for v4.4. Once these requirements are delivered to the PM from the service integrators, modifications to the contract to support the requirements will be initiated. Future DOD, DON, and USMC initiatives that will need to be researched and developed include support or adherence to: Standard Financial Information Structure, Financial Data in Procurement, UCore, Business Enterprise Architecture, USMC Financial Improvement Initiative, Naval Facilities Engineering Command to USMC contract/obligation interface, Seaport-e to USMC contract/obligation interface.

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|---|----------------|----------------|----------------|
| Title: DEFENSE READINESS REPORTING SYSTEM-MARINE CORPS (DRRS-MC) | - | - | 1.444 |
| Articles: | | | 0 |
| FY 2012 Plans: | | | |

UNCLASSIFIED

| | | | | |
|---|---|--|----------------|----------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013M: <i>Marine Corps IT Dev/Mod</i> | PROJECT 2906: <i>Marine Corps IT</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| Initiate development of Phase III to increase capabilities. | | | | |
| Title: DEFENSE MESSAGE SYSTEM (DMS) | | | | |
| Articles: | | 0.172 0 | 0.476 0 | 0.533 0 |
| FY 2010 Accomplishments: Current Material Decision Development (MDD) efforts support the ongoing research and analysis of DMS replacement technologies in order to meet Office of the Secretary of Defense mandated requirements. | | | | |
| FY 2011 Plans: DMS will continue research and analysis through 2012 to assist in the transition to the next generation DMS occurring between FY12-15 in order to test and certify possible organizational messaging solutions/capabilities that are DISA compliant. | | | | |
| FY 2012 Plans: DMS will continue research and analysis through 2012 to assist in the transition to the next generation DMS occurring between FY12-15 in order to test and certify possible organizational messaging solutions/capabilities that are DISA compliant. | | | | |
| Title: MARINE CORPS TRAINING INFORMATION MANAGEMENT SYSTEM (MCTIMS) | | | | |
| Articles: | | 0.904 0 | 0.851 0 | 0.754 0 |
| FY 2010 Accomplishments: In 2010 MCTIMS has accomplished requirement gathering and development of the Unit Training Module (UTM) and began initial fielding of the UTM to the operating forces. | | | | |
| FY 2011 Plans: Efforts planned for FY11 are the requirement gathering and development of the Curriculum Library and Electronic Training Jacket modules. | | | | |
| FY 2012 Plans: Efforts planned for FY12 are the requirements gathering and development of the TECOM training data warehouse. | | | | |
| Title: MANPOWER OPERATIONS SYSTEMS (MOS) | | | | |
| Articles: | | 0.173 0 | 3.736 0 | 6.479 0 |
| FY 2010 Accomplishments: FY10 development continued to focus on the development of the TFAS CMM, specifically, the IPAC 2-4 increments. This automation of processes replaces the Marine administrator manpower reductions in the IPACs. During FY10, FOC development of the DMM and SPA Modules will be completed. | | | | |
| FY 2011 Plans: | | | | |

UNCLASSIFIED

UNCLASSIFIED

| | | | | |
|---|---|--|----------------|----------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013M: <i>Marine Corps IT Dev/Mod</i> | PROJECT 2906: <i>Marine Corps IT</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| FY11 efforts will focus on stabilization of MASS. | | | | |
| FY 2012 Plans: Continue MASS software development and developmental testing during FY2012. | | | | |
| Title: MARINE CORPS ENTERPRISE INFORMATION TECHNOLOGY SERVICES (MCEITS) | | 5.425 | 8.216 | 8.937 |
| Articles: | | 0 | 0 | 0 |
| FY 2010 Accomplishments: During FY10 MCEITS efforts were focused on continued integration testing and finalization of the Capability Production Document in support of Milestone C as well as Software Increment I Initial Operational Capability (IOC) testing. | | | | |
| FY 2011 Plans: FY11 will focus on overlapping efforts including the continued Increment I IOC testing and completion, Milestone C and start of Increment I Operation Testing (OT) and the introduction of the Increment II integration and testing as well as Pre-planned Product Improvement (P3I) with the associated Developmental Testing. | | | | |
| FY 2012 Plans: FY12 will focus on continued Incremental II integration and testing in preparation for Full Operational Capability (FOC) with continued P3I efforts | | | | |
| Title: PAPERLESS ACQUISITION (PA) | | - | 0.381 | 0.542 |
| Articles: | | | 0 | 0 |
| FY 2011 Plans: Funding supports development and enhancement of PR Builder which is the Marine Corps enterprise solution for the electronic generation of purchase requests and serves as the front-end system for feeding the DOD enterprise contracting writing system SPS. Development and enhancement of PR Builder is required to ensure financial and contracting functional requirements and Marine Corps business processes are developed, designed, tested and implemented within the system. PR Builder is also undergoing requirements definition and estimation for v4.4. Once these requirements are delivered to the PM from the service integrators, modifications to the contract to support the requirements will be initiated. | | | | |
| FY 2012 Plans: Future DOD, DON, and USMC initiatives that will need to be researched and developed include support or adherence to: Standard Financial Information Structure, Financial Data in Procurement, UCore, Business Enterprise Architecture, USMC | | | | |

UNCLASSIFIED

| | | | | |
|---|---|--|----------------|----------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013M: <i>Marine Corps IT Dev/Mod</i> | PROJECT 2906: <i>Marine Corps IT</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| Financial Improvement Initiative, Naval Facilities Engineering Command to USMC contract/obligation interface, Seaport-e to USMC contract/obligation interface. | | | | |
| Title: MARINE CORPS RECRUITING INFORMATION SUPPORT SYSTEM (MCRISS) | | | | |
| | | Articles: | | |
| <p>FY 2010 Accomplishments: In FY10, funding supported expanded MCRISS interface with Joint Personnel Adjudication System (JPAS)/ Office of Personnel Management for electronic submission of SF-86 security forms to improve submission success. The development of the interface with JPAS enabled Military Entrance Processing Stations to begin clearance work so that students who require clearances do not have to wait at schools for their clearances to be approved. Developed MCRISS RSS Increment 2 application. The development automates the recruiting process at the Senior Non-Commissioned Officer-in-Charge, recruiter, and Officer Selection office level in order to reduce administrative redundancy and increase effectiveness. MCRISS RSS is comprised of 11 separate distinct processes for recruiting enlisted personnel into the Marine Corps. Developed the Automated Leads Management Resource System (ALMRS). ALMRS is used at every level by prior service enlisted recruiters and officer recruiting operations to track prior service processing. ALMRS replaces the Prior Service Recruiting (PSR) System.</p> <p>FY 2011 Plans: In FY11, funding supports the development of MCRISS Virtual Interactive Processing System (VIPS) Interface 1. Interface 1 is the initial capability to enable MCRISS to interface with Military Entrance Processing Command's (MEPCOM) VIPS. This will modernize the entrance process by enhancing Information Technology (IT) capabilities of USMEPCOM and Accessions Community of Interest (ACOI) through the collection, evaluation, validation, and exchange of Applicant qualification information during peacetime and national mobilization.</p> <p>FY 2012 Plans: In FY12, funding supports the development of MCRISS Virtual Interactive Processing System (VIPS) 2. The intent of VIPS 2 is to modernize MCRISS's VIPS in concert with MEPCOM's VIPS.</p> | | 0.246 0 | 2.666 0 | 3.033 0 |
| Title: TOTAL FORCE STRUCTURE MANAGEMENT SYSTEM (TFSMS) | | | | |
| | | Articles: | | |
| <p>FY 2010 Accomplishments: FY10 accomplishments include award of the TFSMS Transactional web-based training contract and development of WBT to replace the Interim Instructor Led Training, award of the Increment II Performance Based Logistics (PBL) to develop the Performance Based Agreement and Business Case Analysis and development of DoD Architecture Framework artifacts.</p> <p>FY 2011 Plans:</p> | | 2.665 0 | 2.690 0 | 2.605 0 |

UNCLASSIFIED

| | | | | |
|--|---|--|--------------------|--------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013M: <i>Marine Corps IT Dev/Mod</i> | PROJECT 2906: <i>Marine Corps IT</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| <p>FY11 RDT&E funding supports the award of the Systems Integration contract for development of the Increment II capability to be awarded 1st Qtr FY11. FY11 Systems Integration efforts include a System Requirements Review, System Functional Review, Preliminary Design Review and a Critical Design Review.</p> <p>FY 2012 Plans: The first Increment II software release for the Systems Integration efforts, v3.0 is scheduled for the 3rd Qtr FY12. System Integration efforts will continue.</p> | | | | |
| <p>Title: SIPRNET INFRASTRUCTURE</p> <p>FY 2010 Accomplishments: SONIC infrastructure is currently undergoing refresh under Statement of Need authority to establish an "as is" baseline. In FY10, SONIC built on the baseline under anticipated ACAT designation.</p> <p>FY 2011 Plans: SONIC infrastructure is currently undergoing refresh under Statement of Need authority to establish an "as is" baseline. In FY11, SONIC will build on the baseline under anticipated ACAT designation.</p> | | <p>Articles:</p> <p>0.393 0</p> | <p>0.587 0</p> | <p>-</p> |
| <p>Title: MANPOWER PLANNING SYSTEM (MPS)</p> <p>FY 2011 Plans: Re-engineering of the legacy Models will provide long-term planning tools integral to the Human Resource Development Process (HRDP). The current portfolio of Manpower Models in use in various forms since 1960, are utilizing dated technology and algorithms. TFMMR will provide the technical integration of the Models with the core planning systems which utilize outputs of the models, and will include integration of Reserve requirements into MPS. TFMMR will reach Milestone C in 4th Qtr FY09. TFMMR's first increment will reach IOC in 1st Qtr FY10, retiring the legacy Models system. TFMMR's first increment will reach FOC in 3rd Qtr FY10. TFMMR's second increment will be completed in 2nd Qtr FY11.</p> <p>FY 2012 Plans: Continue the TFMMR developmental and operational testing to support incremental development.</p> | | <p>Articles:</p> <p>-</p> | <p>3.180 0</p> | <p>3.134 0</p> |
| Accomplishments/Planned Programs Subtotals | | 9.978 | 22.783 | 27.461 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013M: <i>Marine Corps IT Dev/Mod</i> | PROJECT 2906: <i>Marine Corps IT</i> |
|---|---|--|

C. Other Program Funding Summary (\$ in Millions)

| Line Item | FY 2010 | FY 2011 | FY 2012 | | | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To | |
|---|---------|---------|---------|-------|--------|---------|---------|---------|---------|----------|------------|
| | | | Base | OCO | Total | | | | | Complete | Total Cost |
| • PMC/461700: <i>Defense Readiness Reporting System</i> | 0.000 | 0.000 | 0.120 | 0.000 | 0.120 | 0.050 | 0.200 | 0.000 | 0.050 | 0.000 | 0.420 |
| • PMC/463000: <i>Defense Message System</i> | 1.690 | 0.697 | 0.769 | 0.000 | 0.769 | 0.480 | 1.388 | 2.743 | 2.790 | 0.000 | 10.557 |
| • PMC/463500: <i>Defense Message System</i> | 0.525 | 0.464 | 2.200 | 0.000 | 2.200 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 3.189 |
| • PMC/463002: <i>Marine Corps Enterprise IT Services</i> | 3.473 | 9.143 | 18.655 | 0.000 | 18.655 | 18.954 | 28.401 | 34.257 | 36.532 | 0.000 | 149.415 |
| • PMC/463004: <i>Marine Corps Recruiting Information Support System</i> | 0.000 | 0.196 | 0.100 | 0.000 | 0.100 | 0.080 | 0.060 | 0.060 | 0.060 | 0.000 | 0.556 |
| • PMC/463005: <i>Total Force Structure Management System</i> | 0.000 | 0.108 | 0.016 | 0.000 | 0.016 | 0.010 | 0.570 | 0.000 | 0.282 | 0.000 | 0.986 |
| • PMC/463006: <i>SIPRNET Infrastructure</i> | 18.193 | 5.913 | 10.817 | 0.000 | 10.817 | 20.963 | 11.694 | 13.601 | 13.781 | 0.000 | 94.962 |
| • PMC/461703: <i>Manpower Planning System</i> | 0.288 | 0.280 | 0.289 | 0.000 | 0.289 | 0.295 | 0.295 | 0.312 | 0.317 | 0.000 | 2.076 |

D. Acquisition Strategy

DEFENSE MESSAGE SYSTEM (DMS) is a Joint Acquisition Category (ACAT) IAM program. It is Assistant Secretary Defense Command, Control, Communication and Intelligence mandated. Each year the Joint Interoperability Test Command runs Operational Test (OT) assessments on DMS software versions and maintenance releases. Marine Corps participation is vital to ensuring that the implementation of DMS is interoperable with all DOD CINCs, services, and agencies. Furthermore, as follow-on organizational messaging solutions for DMS are being identified, materiel solution analysis activities will be conducted.

MARINE CORPS TRAINING INFORMATION SYSTEM (MCTIMS) will utilize an evolutionary strategy with incremental development methodology. MCTIMS is structured in a module format that allows for phasing of development without having to re-engineer the entire system to add significant new capability. MCTIMS utilizes a firm-fixed price contracting strategy to reduce risk to the government. MCTIMS is a fully integrated system, emphasizing code re-use between modules to reduce cost and improve program stability.

MANPOWER OPERATIONS SYSTEMS (MOS) within this portfolio follow an Evolutionary Acquisition (EA) approach: 1. Define, develop & deliver an initial or "core" capability based on mature technology. 2. "Core" capability will be incrementally improved over an extended period of time. Incremental Development Model: 1. Iterative cycles of requirements definition, design, build and evaluation. The contracting strategy across the portfolio is to utilize competitive firm-fixed price contracts.

MARINE CORPS ENTERPRISE INFORMATION TECHNOLOGY SERVICES (MCEITS) will be implemented using an EA strategy. Two blocks of capability will be fielded with each block providing an operationally effective and suitable capability in the shortest time possible. The program will deliver an initial capability and continue

UNCLASSIFIED

| | |
|--|----------------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | DATE: February 2011 |
|--|----------------------------|

| APPROPRIATION/BUDGET ACTIVITY | R-1 ITEM NOMENCLATURE | PROJECT |
|---|---|------------------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | PE 0605013M: <i>Marine Corps IT Dev/Mod</i> | 2906: <i>Marine Corps IT</i> |

integration and production of the system to provide full capability over time. The objective is to balance needs with available commercial and government solutions and resources, and to put capability into the hands of the users quickly. This strategy is supported by an Indefinite Delivery Indefinite Quantity contracting vehicle which will allow the contractor to provide the full range of capabilities, services and solutions necessary to satisfy the requirements through incremental implementation of technology, processes and capabilities. Capabilities will be incrementally provided through the use of individual task orders to ensure technology and services are inserted according to the overall program goals, user requirements and program schedule.

PAPERLESS ACQUISITION (PA) will use an incremental development methodology utilizing short development periods. The contracting strategy is to use a firm-fixed price contract to reduce risk to government, with additional capabilities defined by a Marine Corps Configuration Control Board and delivered to the service integrator as a modification to the contract. The delivery of small functional capabilities allows for measurable enhancements to the base system while keeping Post Deployment System Support costs relatively low.

MANPOWER PLANNING SYSTEMS (MPS) will be developed with an open system architecture using incremental development methodology and maximize the use of Commercial Off-the-Shelf (COTS)/Government Off-the-Shelf (GOTS) solutions while supporting the current legacy manpower models until the full transition to the replacement system. Furthermore, the redesign supports the M&RA HRDP. The contracting strategy is competitive firm-fixed price.

MARINE CORPS RECRUITING INFORMATION SUPPORT SYSTEM (MCRISS) development is strongly guided by DOD, DON, and USMC mandates in addition to planned capability. Changes in recruiting standards, policies for interoperability, security and standardization will be developed and implemented within the mandated time frame. MCRISS capitalizes on centrally located data with secure web and wireless web enabled entry. MCRISS utilizes a modular/incremental development to maintain system operability while providing continued development. Contracting strategy includes competitive firm-fixed price contracts.

TOTAL FORCE STRUCTURE MANAGEMENT SYSTEMS (TFSMS) is an EA program currently comprised of two blocks/increments. TFSMS is a web-based application built upon an Oracle/Cognos infrastructure and currently residing on the G-6 Data Center in Marine Corps Base, Quantico. TFSMS currently has over 14,000 users. Block 1 is defined by a Capabilities Production Document (CPD) that was approved by the Marine Corps Requirements Oversight Council (MROC) 9 Apr 08. TFSMS Block 1 Full Operational Capability (FOC) is scheduled for FY11 and requires development, testing and fielding of a transactional user web-based training capability to replace the current interim Instructor-led training which consists of a two-day Equipment Class and a two-day Structure Class taught locally twice each month. Increment II CPD was approved by the MROC 20 Nov 2009 (DM 07-2010). Increment II capabilities include interfaces to NAVAIR to incorporate Marine Corps Air and Air Support Equipment assets providing the Marine Corps with the ability to have a consolidated force structure picture. Increment II FOC is scheduled for FY16.

SECURE INTERNET PROTOCOL ROUTER NETWORK (SIPRNET) INFRASTRUCTURE is currently undergoing refresh under Statement of Need authority to establish an "as is" baseline. In FY10, SONIC built on the baseline under anticipated ACAT designation.

DEFENSE READINESS REPORTING SYSTEM -MARINE CORPS (DRRS-MC) will use an evolutionary acquisition strategy. DRRS-MC will consist of three phases:
 1. will provide basic readiness reporting capabilities for both the input tool and output tool
 2. will provide for auto-population and enhanced trending capabilities.
 3. additional system interfaces and a cross-domain solution. The DRRS-MC software architecture is based on commercial products used throughout Government and Industry. The supporting products, underlying technologies and technical skills are not unique and are readily available. There are no limitations within industry to prevent any interested sources from submitting a proposal. Many of the corporations providing enterprise solutions to the USMC, DON and DoD are potential sources as the DRRS-MC Systems Integrator.

E. Performance Metrics

Milestone Reviews

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013M: <i>Marine Corps IT Dev/Mod</i> | PROJECT 2906: <i>Marine Corps IT</i> |
|---|---|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| MCEITS PM TASK | C/IDIQ | GD:Needham, MA | 8.000 | 2.700 | Dec 2010 | 2.700 | Dec 2011 | - | | 2.700 | Continuing | Continuing | Continuing |
| MCEITS P3I TASK | C/IDIQ | GD:Needham, MA | - | - | | 2.700 | Dec 2011 | - | | 2.700 | Continuing | Continuing | Continuing |
| TFSMS -Dev | C/FP | SAIC:McLean, VA | 14.412 | 0.945 | Dec 2010 | - | | - | | - | Continuing | Continuing | Continuing |
| TFSMS-Dev | C/FP | TBD:Not Specified | - | 1.745 | Apr 2011 | 4.328 | Nov 2011 | - | | 4.328 | Continuing | Continuing | Continuing |
| DRRS | C/FP | TBD:Not Specified | - | - | | 1.054 | Nov 2011 | - | | 1.054 | Continuing | Continuing | Continuing |
| MCRISS Dev Task | C/FP | CGI:Arlington, VA | - | 2.666 | Feb 2011 | 3.055 | Feb 2012 | - | | 3.055 | Continuing | Continuing | Continuing |
| MCTIMS | C/FP | IR:Stafford, VA | - | 0.851 | Mar 2011 | 0.760 | Mar 2012 | - | | 0.760 | Continuing | Continuing | Continuing |
| Various | Various | Various:Various | 56.790 | 1.444 | Dec 2010 | 0.483 | Dec 2011 | - | | 0.483 | Continuing | Continuing | Continuing |
| MPS | C/FP | Various:Various | - | 2.980 | Jul 2011 | 3.156 | Jul 2012 | - | | 3.156 | Continuing | Continuing | Continuing |
| MOS App Dev Efforts | C/FP | Various:Various | - | 3.736 | May 2011 | 6.525 | May 2012 | - | | 6.525 | Continuing | Continuing | Continuing |
| MCEITS Portal Dev | C/IDIQ | GD:Needham, MA | - | 0.843 | Feb 2011 | 2.700 | Feb 2012 | - | | 2.700 | Continuing | Continuing | Continuing |
| Subtotal | | | 79.202 | 17.910 | | 27.461 | | - | | 27.461 | | | |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| MCEITS RDT&E Management | C/FP | Jacobs:Dumfries, VA | 3.905 | 1.469 | Apr 2011 | - | | - | | - | 0.000 | 5.374 | |
| Various | Various | Various:Various | 10.239 | - | Apr 2011 | - | | - | | - | 0.000 | 10.239 | |
| MPS | C/FP | Penn State:State College, PA | - | 0.200 | Nov 2010 | - | | - | | - | 0.000 | 0.200 | |
| Subtotal | | | 14.144 | 1.669 | | - | | - | | - | 0.000 | 15.813 | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| MCEITS | C/FP | TBD:Not Specified | 4.711 | 3.204 | Apr 2011 | - | | - | | - | Continuing | Continuing | Continuing |
| Subtotal | | | 4.711 | 3.204 | | - | | - | | - | | | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy DATE: February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013M: <i>Marine Corps IT Dev/Mod</i> | PROJECT 2906: <i>Marine Corps IT</i> |
|---|---|--|

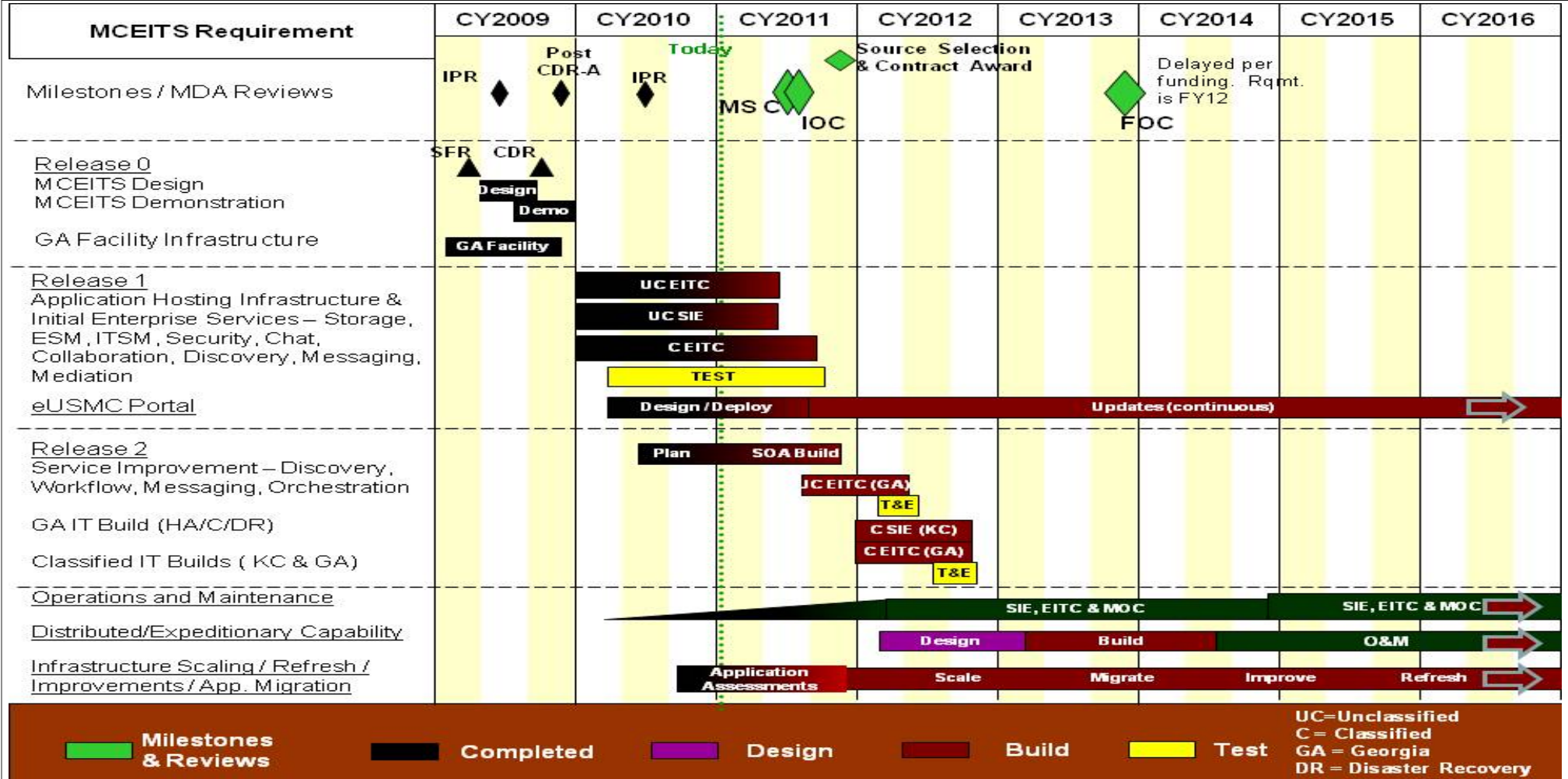
| | Total Prior Years Cost | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|------------------------------|---------|-----------------|----------------|------------------|---------------------|------------|--------------------------------|
| Project Cost Totals | 98.057 | 22.783 | 27.461 | - | 27.461 | | | |

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013M: <i>Marine Corps IT Dev/Mod</i> | PROJECT 2906: <i>Marine Corps IT</i> |
|---|---|--|



UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013M: <i>Marine Corps IT Dev/Mod</i> | PROJECT 2906: <i>Marine Corps IT</i> |
|---|---|--|

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| <i>Proj 2906</i> | | | | |
| Increment 1 Milestone C (MCEITS) | 3 | 2011 | 3 | 2011 |
| Increment 1 Operational Test (OT) (MCEITS) | 3 | 2011 | 3 | 2011 |
| Increment 1 Initial Operational Capability (IOC) (MCEITS) | 4 | 2011 | 4 | 2011 |
| Increment 1 Full Operational Capability (FOC) (MCEITS) | 2 | 2013 | 2 | 2013 |
| P3I Developmental Test (MCEITS) | 4 | 2010 | 3 | 2013 |
| P3I Scale Up services (MCEITS) | 1 | 2012 | 1 | 2012 |
| P3I Operational Test (OT) (MCEITS) | 3 | 2012 | 1 | 2013 |
| P3I Full Operational Capability (FOC) (MCEITS) | 3 | 2013 | 3 | 2013 |

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> |
|---|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| Total Program Element | 83.264 | 28.280 | 58.764 | - | 58.764 | 39.414 | 39.635 | 38.333 | 36.151 | Continuing | Continuing |
| 2901: AAUSN IT | 0.905 | 2.800 | 3.624 | - | 3.624 | 1.215 | 1.125 | 1.147 | 1.170 | Continuing | Continuing |
| 2903: NAVAIR IT | 0.748 | 0.723 | 0.723 | - | 0.723 | 0.718 | 0.693 | 0.708 | 0.716 | Continuing | Continuing |
| 2904: NAVSEA IT | 20.150 | 22.501 | 31.973 | - | 31.973 | 29.147 | 29.869 | 28.563 | 26.622 | Continuing | Continuing |
| 2905: BUPERS IT | - | - | 12.530 | - | 12.530 | - | - | - | - | 0.000 | 12.530 |
| 2907: RESFOR IT | 3.367 | - | - | - | - | - | - | - | - | 0.000 | 3.367 |
| 3026: ERP Convergence | 16.501 | - | - | - | - | - | - | - | - | 0.000 | 16.501 |
| 3034.: Future Personnel and Pay Solution | 12.782 | - | - | - | - | - | - | - | - | 0.000 | 12.782 |
| 3167: Joint Technical Data Integration (JTDI) | 1.417 | 1.883 | 4.328 | - | 4.328 | 5.431 | 5.051 | 4.958 | 4.649 | Continuing | Continuing |
| 3185.: Joint Airlift Information System (JALIS) | 0.415 | 0.373 | 0.419 | - | 0.419 | 0.419 | 0.412 | 0.421 | 0.428 | Continuing | Continuing |
| 9406: Maintenance Data Warehouse | - | - | 5.167 | - | 5.167 | 2.484 | 2.485 | 2.536 | 2.566 | Continuing | Continuing |
| 9999: Congressional Adds | 26.979 | - | - | - | - | - | - | - | - | 0.000 | 26.979 |

A. Mission Description and Budget Item Justification

2901 AAUSN IT The NCIS Modernization Initiative includes multiple projects with RDT&E requirements: Multiple Threat Alert Center (MTAC), Data Modernization & Analytical Tools, and Knowledge Network (K-Net).

Multiple Threat Alert Center (MTAC): The Post-Cole Secretary of the Navy Anti-terrorism/Force Protection Task Force identified the need for NCIS to enhance the Multiple Threat Alert Center (MTAC). The MTAC provides key anti-terrorism/force protection products in response to Fleet tasking and is critical to Fleet protection during current Overseas Contingency Operations (OCO). This project provides funding for the development of an IT system to track the movement of NCIS special agents deployed in advance of DoN in-transit units. The ability to track and communicate with these agents is necessary in order to forward threat data to those forward deployed agents and to task them to respond to emerging threats. Funding is required for equipment and contractor support to modify COTS software.

Data Modernization & Analytical Tools: NCIS data collection, filtering, and analysis infrastructure is unable to handle the increased flow of terrorism investigative and threat reporting of the Post 9/11 era. NCIS must revitalize its infrastructure and its data and investigation management capabilities to effectively counter current terrorist threats. The three main components of this portfolio investment are data modernization, knowledge management, and investigation management.

UNCLASSIFIED

| | |
|---|----------------------------|
| Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy | DATE: February 2011 |
|---|----------------------------|

| | |
|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> |
|---|--|

Knowledge Network (K-Net): K-Net is a Data Modernization & analytical tool being developed and soon deployed that greatly enhances NCIS's technological arsenal. K-Net implements an integrated NCIS approach for identifying, capturing, evaluating, retrieving, and sharing all of NCIS's knowledge and expertise. To that end, K-Net is a knowledge management system that improves NCIS's ability to search, analyze, fuse, and distribute both national intelligence and law enforcement information. The envisioned end state for K-Net is a secure, intuitive, web environment that is the one stop shop where applications, data, and tools are easily accessible to all of NCIS users to effectively and securely fulfill their mission regardless of when and where they operate.

NCIS RECORDS DIGITIZATION: The Electronic Records Management System (ERMAS) is an on-going contractor supported effort to develop a system that will digitize all of the NCIS criminal and intelligence investigative records.

DEPARTMENT OF THE NAVY CRIMINAL JUSTICE INFORMATION SYSTEM (DONCJIS): The Naval Criminal Investigative Service (NCIS) is the Executive Agent (EA) for the Department of the Navy Criminal Justice Information System (DONCJIS). This system provides a cradle to grave criminal justice and law enforcement information system. The system enables multiple communities within the DON to share criminal justice and law enforcement information. Funding is required for contractor support to develop, test, train, deploy and implement this application.

THE SECRETARY OF THE NAVY'S COUNCIL OF REVIEW BOARDS (SCORB): A modular, integrated, web-based system designed to retrieve, process manage and track cases, replacing four existing client-server databases operating on a non-NMCI compliant platform for the Combat Related Special Compensation Board, Physical Evaluation Board, Naval Clemency and Parole Board, and Naval Discharge Board in Phase One of this project.

2903 NAVAIR IT - CMIS - The Configuration Management Information System (CMIS) Program is DoD's standard software system for complete and integrated configuration management (CM) of weapon systems from acquisition to disposal. CMIS efficiently manages all product structure data, including complex interrelationship between assemblies and subassemblies, technical documentation and the parts that comprise the item. CMIS is designed to manage and control configuration data to support the DoD business processes. Accurate, complete and accessible configuration data is critical to the successful operations of DoD weapon systems or tracked assets. Mission readiness and operational capabilities are enhanced by CMIS, as instant consistent integrated configuration data is readily available to operators, maintainers and logistics personnel. This system is a CM tool available DoD wide to support all potential customers. CMIS provides users with a common database infrastructure to ensure compatibility, quality, and consistency of CM processes and provides configuration managers and analysts the validated CM information necessary for accurate maintenance, spare procurements, reliability and safety analysis, and mission readiness. Funding is budgeted to support the services of rehosting and testing of COTS upgrades to ensure objective performance of CMIS is achieved.

2904 NAVSEA IT - This program includes the funding for Information Technology (IT) support at NAVSEA, managed by the SEA 04 Ship Maintenance and Logistics Information Systems (SMLIS) Program Management Office (PMO-IT), for the support of maritime maintenance and includes multiple modernization efforts to insure effectiveness of Fleet maintenance systems. These efforts include retirement and/or replacement of costly legacy systems, transition planning and systems engineering for integration with national and enterprise interim and future solutions. It includes the technical refresh of Naval Shipyard maintenance, repair and overhaul (MRO) production tools. This includes modifications/enhancements to Shipyard IT systems, such as Advanced Industrial Management (AIM); AIM Express (Xp); Project Scheduling and Sequencing (PSS); Performance Measurement & Control (PMC); and Navy Workload and Performance System (NWPS). This program also supports development and modernization of Shipyard HQ tools and other new start technologies/systems. The goal of this program is to provide modernization,

UNCLASSIFIED

| | |
|---|----------------------------|
| Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy | DATE: February 2011 |
|---|----------------------------|

| | |
|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> |
|---|--|

migration, and consolidation of obsolete legacy systems to the next generation of centrally hosted tools supporting MRO of the Fleet force assets and national systems. This funding also supports development and modification to existing software, hardware, contractual program management and technical support to modify/enhance the NAVSEA HQ systems and infrastructure.

2905 BUPERS IT - The John Warner NDAA FY 2007, Pub. I, No. 109-364, directed the SECNAV to prepare a report on the Marine Corp Total Force System (MCTFS), including an analysis of alternatives to MCTFS, which compared the costs of deploying and operating MCTFS within the Navy and the cost of including Navy in the Defense Integrated Military Human Resource System (DIMHRS) development. Based on the review, the Deputy Secretary of Defense (DEPSECDEF) concluded that it would be in the best interest of the Department of Defense (DOD) and the Department of Navy (DON) to join the other services in migrating to DIMHRS. In Jan 09, DEPSECDEF provided additional guidance for migration to a DIMHRS core that allowed more flexibility on the technical approach. The Program Executive Office Enterprise Information Systems (PEO EIS) received funding in FY09 to identify DON requirements, provide a business case for transition options, establish a prototype process integrated with data management and data services tools to support bottom up data governance and data discovery efforts to inform authoritative data store development for future information technology system migration, and provide program management to support the Navy transition to a DIMHRS core product, NMCTFS, or future pay and personnel solutions.

2907 RESFOR IT - Sea Warrior (SW): Sea Warrior includes the Navy manpower management, career management, personnel distribution, recruiting and accessions, training and education information technology systems. The products produced by the Sea Warrior Program Management Office supports the Navy mission by ensuring the best available fit of personnel to work. Funding is for (1) implementation of deferred or new engineering change proposals executed as block updates (CMS/ID MU1A-1, MU1A-2, MU1B, MU1B-2, MU1B-3 and MU1B-4) with new functionality; and (2) design and development of an enterprise training management and delivery capability to replace the current Navy e-learning delivery platform.

3026 Converged Enterprise Resource Planning (ERP) Program: The Navy ERP solution is an integrated business management system that modernizes and standardizes Navy's business processes. Navy ERP utilizes best commercial practices to provide real-time information exchange, unprecedented financial and asset visibility, and improved reporting and decision-making capabilities across key acquisition, financial, and logistics operations.

Navy ERP is the tool chosen to meet Congressional mandates to establish and maintain federal financially compliant management systems, federal accounting standards, and US Government General Ledger procedures at the transaction level. The Navy ERP foundation to achieve enterprise-wide business transformation is accomplished through two releases: the Financial/Acquisition Solution and the Single Supply Solution. In October 2008, ASN FM&C designated Navy ERP the Navy's Financial System of Record. The Navy has already encountered and overcome a broad range of challenges to successfully deploy financial, acquisition, and workforce management capabilities to four System Commands. These Commands include over 40,000 users and cover about \$63B of the Navy's Total Obligation Authority (TOA). Navy ERP is currently in the process of deploying the Single Supply Solution, which will be complete in FY12, providing an integrated financial and supply functionality projected to result in significant inventory savings. The Program of Record future deployments include the Financial/Acquisition Solution to Naval Sea Systems Command (NAVSEA) (Working Capital Fund) in October 2011, and the Office of Naval Research (ONR) and Strategic Systems Programs (SSP) in October 2012.

UNCLASSIFIED

| | |
|---|----------------------------|
| Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy | DATE: February 2011 |
|---|----------------------------|

| | |
|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> |
|---|--|

The Navy has committed to implementing the Navy ERP capabilities across the full Navy enterprise in order to tie Navy business processes together in a single system, provide unprecedented financial transparency, and increase asset visibility. This will ultimately increase the percentage of Navy TOA managed within the ERP system from 50% to approximately 100% and increase the number of users from approximately 66,000 to approximately 143,000.

Program development completed in FY10; no further RD TEN funding required in the outyears.

3034 Future Pay and Personnel System - Funding supports Future Pay and Personnel System (FPPS) design, development and modernization efforts. Provides development, integration, and support of future pay and personnel system capabilities, including the modernization and consolidation of existing pay and personnel systems into the DIMHRS core and remaining Navy-unique development and modernization efforts for a fully integrated pay and personnel solution. Includes (1) development of specifications and design of solutions to integrate with DIMHRS core and/or the selected pay and personnel products, (2) design and development of solutions to provide remaining Navy-unique capabilities defined by a Navy gap analysis; (3) staffing of the Navy program office, development and modernization support from the functional organization, (4) development and modernization of remaining legacy system interfaces; (5) development of the authoritative data store and interfaces with the DIMHRS core and other pay and personnel products; and Operational Test and Evaluation of the selected future pay and personnel solution.

3167 Joint Technical Data Integration (JT DI) Program - Funding supports the evaluation, testing and integration to develop a JT DI Commercial Off The Shelf (COTS) solution for installation on a Carrier (CV) and Amphibious Assault (L) class ships and up to 104 Navy/Marine Corp aviation activities. JT DI is a digital technical data access, delivery and local O&I level library management toolset and telemaintenance collaboration process enabler. It improves accuracy and timeliness of technical manual and other technical data delivery and minimizes the Fleet's library management burden. JT DI reduces maintenance work hours with saving Return on Investment (ROI) of 2.5:1. It facilitates the transition of the Joint Distance Support and Response (JDSR) Advanced Concept Technology Demonstration (ACTD) for telemaintenance and provides for process efficiencies to support ongoing Aviation Fleet Technical Representative reductions. Portable Electronic Maintenance Aids (PEMA): Funding supports the evaluation, testing and integration to develop PEMA Commercial Off The Shelf (COTS) solution for portable device deployments across the Naval Aviation Enterprise (NAE). PEMA is a portable device utilized by maintainers with the implementation of digital maintenance capabilities (digital publications, Integrated Electronic Technical Manuals(IETMs), Internet Protocol (IP) based data uploads, Binary digiT (BIT) data downloads, automated diagnostics, and planeside NALCOMIS). PEMAs are a mandatory display device supporting modern day Automated Maintenance Environment (AME) implemented for weapon systems. Marine Aviation Logistics Support Program II (MALSP II) Expeditionary Pack up Kit (EPUK): Funding supports the evaluation, development, testing and integration of software and hardware solutions for expeditionary requisitioning and supply chain management across all US Marine Corp Aviation activities. Marine Aviation Logistics is changing to MALSP II to meet current and future operational requirements - in support of the NAE Strategic Plan, Marine Corps Vision & Strategy 2025, and the USMC Long War Concept. MALSP II will allow aviation logisticians to decrease total infrastructure and resource inventories forward by moving the preponderance of the Maintenance and Supply workload to the CONUS Parent MALS, and reducing the total forward Aviation Logistics footprint (personnel, equipment, facilities and spares). EPUK, as part of Marine Aviation Logistics Enterprise IT (MAL-EIT) system, is an automated wireless hardware / software solution that is a key enabler in integrating US Marine Corp Aviation Combat Element (ACE) and Logistics Combat Element (LCE) logistics systems to make the Marine Air Ground Task Force (MAGTF) more responsive, agile, flexible and lethal with the ability to support and sustain operations in austere expeditionary environments and across the Range of Military Operations (ROMO).

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|--|
| APPROPRIATION/BUDGET ACTIVITY | R-1 ITEM NOMENCLATURE |
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> | PE 0605013N: <i>Information Technology Development</i> |
| BA 5: <i>Development & Demonstration (SDD)</i> | |

3185 Joint Air Logistics Information System (JALIS): JALIS: This system provides an airlift data collection and analysis system for the purpose of airlift and aircraft management. JALIS supports the objectives and strategies presented in the DoD Transportation Corporate Information Management (CIM) Strategic Plan and Enterprise Integration (EI) Implementation Strategy as directed for DoD transportation management responsibilities in the USTRANSCOM Joint transportation CIM Center (JTCC) Abbreviated Integration Decision Paper (IDP) for the JALIS.

9406 Maintenance Data Warehouse/NAVAIR DECKPLATE - The development of the Decision Knowledge Programming for Logistics Analysis and Technical Evaluation (DECKPLATE) program is the next generation data warehouse for aircraft maintenance, flight and usage data. It provides a web-based interface to a single source of information currently being stored in multiple Naval Aviation Logistics Data Analysis (NALDA) systems. Through the use of analysis, query and reporting tools the user has the capabilities to effectively obtain readiness data in a near real-time environment, as well as historical data for trend analysis and records reconstruction. DECKPLATE supports the mission of the warfighter who requires a single source of near real-time aviation data in which to base critical readiness decisions. This requires collecting data from authoritative sources into a data warehouse. Because the warfighter only needs to access one database, the time consuming task of collecting various pieces of data form various sources will be reduced and ultimately eliminated. This improves data quality because it reduces the possibility of two systems providing identical data elements, but slightly different data. Data availability is improved through continuous near real-time feeds from the data sources, giving the warfighter the most current information to base decisions. In addition, this also accomplishes a reduction in legacy systems mandated by OPNAV.

9999 Congressional Adds

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 91.425 | 28.280 | 35.050 | - | 35.050 |
| Current President's Budget | 83.264 | 28.280 | 58.764 | - | 58.764 |
| Total Adjustments | -8.161 | - | 23.714 | - | 23.714 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | -7.200 | - | | | |
| • SBIR/STTR Transfer | -2.361 | - | | | |
| • Program Adjustments | - | - | 23.830 | - | 23.830 |
| • Section 219 Reprogramming | -0.009 | - | - | - | - |
| • Rate/Misc Adjustments | - | - | -0.116 | - | -0.116 |
| • Congressional General Reductions | -0.031 | - | - | - | - |
| Adjustments | | | | | |
| • Congressional Add Adjustments | 1.440 | - | - | - | - |

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> |
|---|--|

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 9999: Congressional Adds

- Congressional Add: *NSWC Corona Item Unique Identification Center*
- Congressional Add: *Instrumented Underwater Training Systems*
- Congressional Add: *Integrated Manufacturing Systems 3D Simulation and Modeling Project*
- Congressional Add: *Maintenance Planning and Assessment Technology Insertion*
- Congressional Add: *METOC Integrated Network-Centric Technology Systems*
- Congressional Add: *SPAWAR Systems Center/ITC New Orleans*
- Congressional Add: *Digital Access of NCIS Records*
- Congressional Add: *Condition-Based Maintenance Enabling Technologies*
- Congressional Add: *Integration of Logistics Info For Knowledge Projec*
- Congressional Add: *National Terrorism Preparedness Institute Ccounter*
- Congressional Add: *Supply Chain Logistics Capability at the ABL NIROP*

| | FY 2010 | FY 2011 |
|---|---------|---------|
| | 1.434 | - |
| | 2.231 | - |
| | 1.992 | - |
| | 1.195 | - |
| | 2.589 | - |
| | 3.187 | - |
| | 1.195 | - |
| | 2.390 | - |
| | 1.593 | - |
| | 2.800 | - |
| | 6.373 | - |
| Congressional Add Subtotals for Project: 9999 | 26.979 | - |
| Congressional Add Totals for all Projects | 26.979 | - |

Change Summary Explanation

Technical: Not applicable.

Schedule Changes: 3167, Joint Technical Data Integration:

Completion of JTDI Release 2.5 and 2.6 milestones have been slightly delayed due to Information Assurance (IA) issues. Delay of the JTDI Release 3.0 Contract Award has caused delays to the start of all other 3.0 events with the exception of Development/Functional Testing. Milestones for Release 4.0 and later will shift to the right one quarter due to program funding reductions which impacted the schedule.

Schedule Changes: 9406, Maintenance Data Warehouse:

Maintenance Data Warehouse received a plus up of 2.7 Million in the PB12 controls, Issue 71162, for DECKPLATE. As a result, the new plan is to bring some of the Out-Year workload into FY12 and move the whole schedule to the left as appropriate.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 2901: <i>AAUSN IT</i> |
|---|--|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|----------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 2901: <i>AAUSN IT</i> | 0.905 | 2.800 | 3.624 | - | 3.624 | 1.215 | 1.125 | 1.147 | 1.170 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

DATA MODERNIZATION & ANALYTICAL TOOLS: NCIS data collection, filtering, and analysis infrastructure is unable to handle the increased flow of terrorism investigative and threat reporting of the Post 9/11-Global War on Terrorism era. NCIS must revitalize its infrastructure and its data and investigation management capabilities to effectively counter current terrorist threats. This program provides modernization funding for Enterprise Networks and Desktops/Laptops, data modernization and analytical tools, Local Area Network (LAN) specific connectivity and contract support on data collections and analytical integration. The three main components of this portfolio investment are data modernization, knowledge management, and investigation management.

DEPARTMENT OF THE NAVY CRIMINAL JUSTICE INFORMATION SYSTEM (DONCJIS): The Naval Criminal Investigative Service (NCIS) is the Executive Agent (EA) for the Department of the Navy Criminal Justice Information System (DONCJIS). This system provides a cradle to grave criminal justice and law enforcement information system. The system enables multiple communities within the DON to share criminal justice and law enforcement information. Funding is required for contractor support to develop, test, train, deploy and implement this application.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|------------|------------|--------------|-------------|---------------|
| <p>Title: Modernization</p> <p align="right">Articles:</p> <p>Description: Prototype Phase completed. The initial development of "Threat Planner" (original Modernization portfolio) as well as subsequent spirals of K-Net capabilities, to include centralized database checks on individuals; and MTAC-related production and synthesis capabilities in support of Maritime Domain Awareness.</p> <p>FY 2011 Plans: Developmental efforts directed at emerging technologies in Data Collection and Knowledge Management with an emphasis on integrating them into the law enforcement and counter intelligence mission area of NCIS.</p> <p>FY 2012 Base Plans: Developmental efforts directed at emerging technologies in Data Collection and Knowledge Management with an emphasis on integrating them into the law enforcement and counter intelligence mission area of NCIS.</p> | - | 2.500 0 | 2.541 0 | - | 2.541 0 |
| <p>Title: DONCJIS</p> <p align="right">Articles:</p> | 0.905 0 | 0.300 0 | - | - | - |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 2901: <i>AAUSN IT</i> |
|---|--|---|

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|---------|---------|--------------|-------------|---------------|
| <p>Description: The Naval Criminal Investigative Service (NCIS) is the Executive Agent (EA) for the Department of the Navy Criminal Justice Information System (DONCJIS). This system provides a cradle to grave criminal justice and law enforcement information system. The system enables multiple communities within the DON to share criminal justice and law enforcement information. Funding is required for contractor support to develop, test, train, deploy and implement this application.</p> <p>FY 2010 Accomplishments: The deployment of DONCJIS is being held in abeyance. Pre-deployment testing revealed significant operability problems that significantly degraded the system. SPAWAR has conducted a baseline review of the system in order to determine whether or not corrective action can be taken or whether a new developmental effort must be started. The results of that assessment are currently being reviewed with an expected final decision as to the future of the program to be made during the 4th quarter of FY-2010</p> <p>FY 2011 Plans: The DONCJIS program remains "on hold"; however, if the DONCIO does authorize the restart, RDT&E funds will be used to provide contractor support for continual development of additional DONCJIS spirals//versions.</p> | | | | | |
| <p>Title: Modernization - Secretariat</p> <p align="right">Articles:</p> <p>Description: The Secretariat has numerous requirements to modernize several systems including financial management, naval records management, and portal applications. These systems will be updated from older technologies to include ADA programming language to Java and Oracle Client-Server to web based. These upgrades are necessary to continue functionality of systems which ensure timely, accurate and efficient operation of the Secretariat's mission.</p> <p>FY 2012 Base Plans: Development will include the redesign of several systems utilizing the latest technology while incorporating user requirements, functionality, and a product that meets the need of the end user. ADA language conversion to allow interface with existing Department of the Navy (DON) electronic records management systems.</p> | - | - | 1.083 0 | - | 1.083 0 |
| Accomplishments/Planned Programs Subtotals | 0.905 | 2.800 | 3.624 | - | 3.624 |

UNCLASSIFIED

| | | |
|---|--|---|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 2901: <i>AAUSN IT</i> |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

MODERNIZATION - Contract will be awarded under a competitive, all source, RFP. NO ACAT

DONCJIS has a requirement for a contractor to provide full life-cycle software development services (requirements analysis, project management and planning, design, development, testing, documentation, training, implementation, and post-implementation support). The selected contractor must have knowledge of the existing DoD Law Enforcement information systems pertinent to the task. They must also have the corporate experience and a staff of knowledgeable personnel to provide the required services. The task will be monitored by the Contracting Officer Representative (COR), who reviews technical data submissions, system deliverables, and invoices to ensure acceptable contractor performance and scheduled deliveries.

E. Performance Metrics

"Program cost, schedule and performance are measured using a systematic approach with approved programs and methods. The results of these measurements are presented to NCIS management through a governance review board process on a regular basis to determine program effectiveness and to provide new direction as needed to ensure the efficient use of resources. To monitor and manage the execution of projects in addition to other IT investments, management and governance boards review metrics and key performance indicators that are outlined in various plans. Some of the plans that expound on the data captured to attribute to performance measures include: Project Management Plan, Risk Mitigation Plan, Communication Plan, Procurement Plan, and a Certification & Accreditation Plan.

Other specific performance measurements include:

1. Actual versus planned project scope
2. Actual versus planned time schedule
3. Actual versus planned costs
4. Actual versus planned risks and the mitigation of those risks

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY
1319: Research, Development, Test & Evaluation, Navy
BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE
PE 0605013N: Information Technology
Development

PROJECT
2901: AAUSN IT

Product Development (\$ in Millions)

| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|--|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| | | | | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| Software Development (Modernization) | C/FP | Northrop Grumman:Not Specified | - | 2.500 | Oct 2010 | 2.541 | Oct 2011 | - | | 2.541 | 2.546 | 7.587 | |
| Contractor Engineering Support (DONCJIS) | SS/T&M | Interimage Inc.:Manassas, VA | 0.972 | 0.300 | Oct 2010 | - | Oct 2011 | - | | - | Continuing | Continuing | Continuing |
| Software Development | C/FP | TBD:TBD | - | - | | 1.083 | Oct 2011 | - | | 1.083 | 0.000 | 1.083 | |
| Subtotal | | | 0.972 | 2.800 | | 3.624 | | - | | 3.624 | | | |

| | Total Prior Years Cost | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| | | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| Project Cost Totals | 0.972 | 2.800 | | 3.624 | | - | | 3.624 | | | |

Remarks

UNCLASSIFIED

| | | |
|---|--|---|
| Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 2901: <i>AAUSN IT</i> |

| | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|--|---------|---|---|---|--|---|---|---|----------------------|---|---|---|------------------|---|---|---|----------------------|---|---|---|---------|---|---|---|---------|---|---|---|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Proj 2901 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Technology Development (Modernization) | | | | | ████████████████████ | | | | | | | | | | | | | | | | | | | | | | | |
| System Development & Demonstration (Modernization) | | | | | | | | | ████████████████████ | | | | | | | | | | | | | | | | | | | |
| Production & Deployment (Modernization) | | | | | | | | | | | | | ████████████████ | | | | | | | | | | | | | | | |
| Operations & Support (Modernization) | | | | | | | | | | | | | | | | | ████████████████████ | | | | | | | | | | | |
| System Development & Demonstration (DONCJIS) | | | | | ████████████████████ | | | | | | | | | | | | | | | | | | | | | | | |
| Production & Deployment (DONCJIS) | | | | | ████████████████████ | | | | | | | | | | | | | | | | | | | | | | | |
| Operations & Support (DONCJIS) | | | | | ██ | | | | | | | | | | | | | | | | | | | | | | | |

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 2901: <i>AAUSN IT</i> |
|---|--|---|

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| <i>Proj 2901</i> | | | | |
| Technology Development (Modernization) | 1 | 2011 | 4 | 2012 |
| System Development & Demonstration (Modernization) | 1 | 2012 | 4 | 2013 |
| Production & Deployment (Modernization) | 1 | 2014 | 4 | 2014 |
| Operations & Support (Modernization) | 1 | 2015 | 4 | 2016 |
| System Development & Demonstration (DONCJIS) | 1 | 2011 | 4 | 2013 |
| Production & Deployment (DONCJIS) | 1 | 2011 | 4 | 2013 |
| Operations & Support (DONCJIS) | 1 | 2011 | 4 | 2015 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 2903: <i>NAVAIR IT</i> |
|---|--|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|----------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 2903: <i>NAVAIR IT</i> | 0.748 | 0.723 | 0.723 | - | 0.723 | 0.718 | 0.693 | 0.708 | 0.716 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

CMIS - The Configuration Management Information System (CMIS) Program is DoD's standard software system for complete and integrated CM of weapon systems from acquisition to disposal. CMIS efficiently manages all product structure data, including complex interrelationship between assemblies and subassemblies, technical documentation and the parts that comprise the item. CMIS is designed to manage and control configuration data to support the DoD business processes. Accurate, complete and accessible configuration data is critical to the successful operations of DoD weapon systems or tracked assets. Mission readiness and operational capabilities are enhanced by CMIS, as instant consistent integrated configuration data is readily available to operators, maintainers and logistics personnel. This system is a CM tool available DoD wide to support all potential customers. CMIS provides users with a common database infrastructure to ensure compatibility, quality, and consistency of CM processes and provides configuration managers and analysts the validated CM information necessary for accurate maintenance, spare procurements, reliability and safety analysis, and mission readiness. Funding is budgeted to support the services of rehosting and testing of Commercial off-the-shelf (COTS) upgrades to ensure objective performance of CMIS is achieved.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|--------------|-------------|---------------|
| Title: CMIS Annual Software Release | 0.748 | 0.723 | 0.723 | - | 0.723 |
| Articles: | 0 | 0 | 0 | | 0 |
| FY 2010 Accomplishments: Re-baselined CMIS Software to upgrade to latest version of Oracle, incorporated development efforts associated with COTS obsolescence and evolved an open standard interface to other systems. | | | | | |
| FY 2011 Plans: Re-baseline CMIS Software to upgrade to latest version of Oracle, incorporate development efforts associated with COTS obsolescence and evolve an open standard interface to other systems. | | | | | |
| FY 2012 Base Plans: Re-baseline CMIS Software to upgrade to latest version of Oracle, incorporate development efforts associated with COTS obsolescence and evolve an open standard interface to other systems. | | | | | |
| Accomplishments/Planned Programs Subtotals | 0.748 | 0.723 | 0.723 | - | 0.723 |

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 2903: <i>NAVAIR IT</i> |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

CMIS - The CMIS Program used Joint Logistics Systems Center (JLSC) funds to evolve CMIS to Software Release 5.0. In June 1998 CMIS was transferred to the Navy as executive agent and NAVAIR as program manager. Program Budget Decision 401 transferred joint funding from JLSC to NAVAIR to continue evolving CMIS. The CMIS Program Manager continues to evolve the program to keep pace with cost, Military Standards, and evolving commercial standards. Various contractors using competitively awarded contracts have supported the program. Currently, Intergraph Corporation is the CMIS integration contractor selected through a GSA contract.

E. Performance Metrics

CMIS - Milestone C Spiral Development:

1. Release 8.0.12 within 330 days of FY10 start - COMPLETED AS SCHEDULED
2. During the life of the contract verify conformance with agency specific information processing standards and functional requirements. Prior to delivery of enhanced software, demonstrate the operational capability of the system software. Functionality of the software must meet required systems architecture and processing capabilities. All requirements mandated by law or regulation must be 100% compliant. Independent verification and validation (IV&V) will be used for testing new releases of software to determine that previous functionality is maintained. Customer satisfaction will be measured through limited validated customer complaints, feedback, and surveys.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 2904: <i>NAVSEA IT</i> |
|---|--|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|----------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 2904: <i>NAVSEA IT</i> | 20.150 | 22.501 | 31.973 | - | 31.973 | 29.147 | 29.869 | 28.563 | 26.622 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

This program includes the funding for Information Technology (IT) support at NAVSEA managed by the NAVSEA 04 Ship Maintenance and Logistics Information Systems (SMLIS) Program Management Office (PMO-IT) for the support of maritime maintenance and includes multiple modernization efforts to insure effectiveness of Fleet maintenance systems. These efforts include retirement and/or replacement of costly legacy systems, transition planning and systems engineering for integration with national and enterprise interim and future solutions. These efforts align with direction to insure that proposed interim solutions support a planned single maintenance solution end state, as well as direction to align with data center consolidation plans proposed across the FYDP. It includes the technical refresh of Naval Shipyard maintenance, repair and overhaul (MRO) production tools. This includes modifications/enhancements to Shipyard IT systems, such as Advanced Industrial Management (AIM); AIM Express (Xp), Project Scheduling and Sequencing (PSS), Performance Measurement & Control (PMC), Navy Workload and Performance System (NWPS); and other new start technologies/systems such as Mobile Workforce Enablement, Ships-3M Integration, and the Industrial Schedule Workload Integrated Forecasting Tool (SWIFT) Initiative. The goal of PMO-IT is to provide modernization, migration, and consolidation of obsolete legacy systems to the next generation of centrally hosted tools supporting Fleet maintenance and national systems for the Navy.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|---------|---------|--------------|-------------|---------------|
| Title: NAVSEA IT | 20.150 | 22.501 | 31.973 | - | 31.973 |
| Articles: | 0 | 0 | 0 | | 0 |
| Description: This program includes the funding for Information Technology modernization at NAVSEA managed by the NAVSEA 04 Ship Maintenance and Logistics Information Systems (SMLIS) Program Management Office (PMO-IT) for the support of maritime maintenance and includes multiple modernization efforts to insure effectiveness of Fleet maintenance systems. It includes the technical refresh of Naval Shipyard and Regional Maintenance Center (RMC) maintenance, repair and overhaul (MRO) production tools. This project will allow Navy to realign functionality, consolidate systems and applications, and re-platform operations to facilitate a centrally hosted, net-centric maintenance solution suite. | | | | | |
| FY 2010 Accomplishments: Planning major systems migration to hasten retirement of costly legacy systems. | | | | | |
| FY 2011 Plans: | | | | | |

UNCLASSIFIED

| | |
|--|----------------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | DATE: February 2011 |
|--|----------------------------|

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 2904: <i>NAVSEA IT</i> |
|---|--|--|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|--------------|-------------|---------------|
| Expecting to deploy maintenance systems planned in FY10 to facilitate retirement of legacy maintenance system. | | | | | |
| <i>FY 2012 Base Plans:</i> The major accomplishments are the retirement of NEMAIS, establishment of a wireless infrastructure in the Naval Shipyards, establishment of a corporate NAVSEA data warehouse. | | | | | |
| Accomplishments/Planned Programs Subtotals | 20.150 | 22.501 | 31.973 | - | 31.973 |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

Navy information technology (IT) products have been supported by a variety of activities and have been developed and deployed and maintained using numerous tools and techniques. This "stovepipe" approach to development has made integration difficult and as a result, has reduced the functional benefits and cost savings that could be realized from common system standards; common processes; shared resources and infrastructure. Furthermore, the lack of standard development methodology and tool sets has increased the corporate support costs of automated solutions. Consolidation of the management of the NAVSEA 04 IT operations at a corporate level is expected to hasten IT system consolidation and support the further reduction in information technology toolsets as identified within the Navy Functional Area Manager (FAM) endeavors. Two key aspects of such a consolidation would be improved system performance at less cost and consistent formal processes. NAVSEA 04 has established the Program Management Office for Information Technology (PMO-IT) to oversee all IT development efforts and to acquire and manage IT resources.

E. Performance Metrics

FY10 - Complete planning and design for Advanced Industrial Management (AIM) Suite solution for Navy Regional Maintenance Centers (RMCs) and Ship Repair Facility (SRF) to support approximately 2200 users.

FY11 - Complete unit and integrated testing for AIM Suite for Navy RMCs and SRF to support approximately 2200 users.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology</i> <i>Development</i> | PROJECT 2904: <i>NAVSEA IT</i> |
|---|--|--|

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | | |
|---------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|--|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract | |
| Software Development | C/CPFF | NAVSEA:WNY, D.C. | 53.940 | 21.501 | Jul 2011 | 29.973 | Jul 2012 | - | | 29.973 | Continuing | Continuing | Continuing | |
| Software Development | WR | NSLC:Mechanicsburg, PA | 5.000 | 1.000 | Jan 2011 | 2.000 | Jan 2012 | - | | 2.000 | Continuing | Continuing | Continuing | |
| Subtotal | | | 58.940 | 22.501 | | 31.973 | | - | | 31.973 | | | | |

Remarks
The NAVSEA 04 Program Office for Information Technology plans to execute all contract awards through the NAVSEA SEAPORT vehicle (started in FY09).

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|--|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract | |
| DAWDF | Various | Not Specified:Not Specified | 0.112 | - | | - | | - | | - | 0.000 | 0.112 | 0.112 | |
| Subtotal | | | 0.112 | - | | - | | - | | - | 0.000 | 0.112 | 0.112 | |

| | Total Prior Years Cost | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|-------------------------------|----------------|--------|---------------------|--------|--------------------|---|----------------------|--------|-------------------------|-------------------|---------------------------------|
| Project Cost Totals | | 59.052 | 22.501 | | 31.973 | | - | | 31.973 | | | |

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY
 1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE
 PE 0605013N: *Information Technology Development*

PROJECT
 2904: *NAVSEA IT*

| PAGE ONE - Lean Systems Improvement | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | | | |
|---|---------|----|----|----|---------|----|----|------------|-----------|----|----|----|-------------------|------------------|----|----|-----------------|---------------------|----|----|-----------|-----------------------|----|----|---------|-------------------|----|----|--|--|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | | |
| ELECTRONIC TECHNICAL WORK DOCUMENTS (eTWD) | | | | | | | | eTWD IRB ● | eTWD ANLY | | | | eTWD S/W DEV | | | | eTWD Test & Doc | | | | eTWD IMPL | | | | | | | | | |
| SCHEDULING IMPROVEMENT | | | | | | | | | | | | | SKED IMPVMT IRB ● | SKED IMPVMT ANLY | | | | SKED IMPVMT S/W DEV | | | | SKED IMPVT TEST & DOC | | | | SKED IMPVT IMPL ● | | | | |
| PARTS TRACKING SYSTEM (PTS) | | | | | | | | | | | | | PTS IRB ● | PTS ANLY | | | | PTS S/W DEV | | | | PTS TEST & DOC | | | | PTS IMPL ● | | | | |

2012PB - 0605013N - 2904

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY
 1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE
 PE 0605013N: *Information Technology Development*

PROJECT
 2904: *NAVSEA IT*

| PAGE TWO - Lean Systems Improvement CONTINUED | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | | | | |
|--|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|-----------|------------|--------------|----|-------------------|------------------|-------------|----|---------------------|----|----|---------------------|--|--|--------------------|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | | | |
| SHOP FLOOR CONTROL (SFC) WORK INTEGRATION | | | | | | | | | | | | | | | | | | | | | SFC WK INTG IRB ● | SFC WK INTG ANLY | | | SFC WK INTG S/W DEV | | | SFC INTG TEST & DOC | | | SFC WK INTG IMPL ● |
| ITEM UNIQUE IDENTIFICATION (IUID) | | | | | | | | | | | | | | | | | IUID ANLY | IUID IRB ● | IUID S/W DEV | | IUID TEST & DOC | IUID IMPL ● | | | | | | | | | |
| STRATEGIC HUMAN CAPITAL MGMT (SHCM) | | | | | | | | | | | | | | | | | | | | | SHCM S/W DEV | SHCM TEST & DOC | SHCM IMPL ● | | | | | | | | |

2012PB - 0605013N - 2904

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 2904: <i>NAVSEA IT</i> |
|---|--|--|

| PAGE THREE - Lean Systems Improvement CONTINUED | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|---|----------------------|----|----------------|----|-----------------|----|--------------------|----|-------------------|----|-------------|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q |
| MOBILE WORKFORCE ENABLEMENT (MWE INFRA) | MWE INFRA TEST & DOC | | MWE INFRA IMPL | | | | | | | | | | | | | | | | | | | | | | | | | |
| SCHEDULE WORKLOAD INTEGRATED FORECASTING TOOL (iSWIFT) | iSWIFT IRB | | iSWIFT ONLY | | | | iSWIFT S/W DEV | | iSWIFT TEST & DOC | | iSWIFT IMPL | | | | | | | | | | | | | | | | | |
| MAT'L ACCESS TECHNOLOGY MAT'L CONTROL TAG | MAT MCT IRB | | MAT MCT ONLY | | MAT MCT S/W DEV | | MAT MCT TEST & DOC | | MAT MCT IMPL | | | | | | | | | | | | | | | | | | | |

2012PB - 0605013N - 2904

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0605013N: *Information Technology Development*

PROJECT

2904: *NAVSEA IT*

| PAGE FOUR - Migration Consolidation & Enhancements | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|--|---------|----|----|----|--------------|----|----|----------------------|-----------------------|----|----|----|--------------------------|----|----|----|-------------------------|----|----|----|-----------------------|----|----|----|---------|----|----|----|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q |
| EXECUTION PRIORITIES | | | | | EXEC PRI IRB | | | | EXEC PRI ANLY | | | | EXEC PRI S/W DEV | | | | EXEC PRI TEST & DOC | | | | EXEC PRI IMPL | | | | | | | |
| CONFIGURATION BASED PMS | | | | | | | | CONFIG BASED PMS IRB | CONFIG BASED PMS ANLY | | | | CONFIG BASED PMS S/W DEV | | | | CONFIG BASED TEST & DOC | | | | CONFIG BASED PMS IMPL | | | | | | | |

2012PB - 0605013N - 2904

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 2904: <i>NAVSEA IT</i> |

| PAGE FIVE - Migration Consolidation & Enhancements CONTINUED | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | | | | | |
|---|---------|----|----|----|---------|----|----|----|------------------|----|----|----|--------------------|----|----|----|-----------------|----|----|----|-------------------|----|----|----|---------|----|----|----|--|--|--|--|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | | | | |
| MAINTENANCE & SHIPWORK PLANNING (MSWP) | | | | | | | | | | | | | | | | | MSWP IRB ● | | | | MSWP ANLY | | | | | | | | | | | |
| | | | | | | | | | | | | | MSWP S/W DEV | | | | | | | | MSWP TEST & DOC | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | MSWP IMPL | | | | | | | | | | | |
| ELECTRONIC FACILITIES & EQMT MGMT SYS (eFEM 12) | | | | | | | | | eFEM 12 IRB ● | | | | eFEM 12 ANLY ● | | | | EFEM 12 S/W DEV | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | eFEM 12 TEST & DOC | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | eFEM 12 IMPL ● | | | | | | | | | | | |

2012PB - 0605013N - 2904

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 2904: <i>NAVSEA IT</i> |
|---|--|--|

| PAGE SIX - Migration Consolidation & Enhancements CONTINUED | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | | | | | |
|--|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|--|--|--|--|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | | | | |
| LOCAL SHIPYARD APPLICATIONS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| OUTFITTING INTEGRATION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ALLOWANCING INTEGRATION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0605013N - 2904

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0605013N: *Information Technology Development*

PROJECT

2904: *NAVSEA IT*

| PAGE SEVEN - Migration Consolidation & Enhancements CONTINUED | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | | | | | |
|--|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------------|----------------|-------------------|--------------------|---------|----|----|----|---------|----|----|----|--|--|--|--|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | | | | |
| ELECTRONIC FACILITIES & EQUIPMENT MGMT SYSTEM (eFEM 14) | | | | | | | | | | | | | | | | | eFEM 14 IRB ● | eFEM 14 ANLY ● | eFEM 14 S/W DEV ● | eFEM 14 TEST & DOC | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ELECTRONIC FACILITIES & EQMT MGMT SYS (eFEM 16) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NAVY WORKLOAD & PERFORMANCE SYSTEM (NWPS) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0605013N - 2904

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 2904: <i>NAVSEA IT</i> |
|---|--|--|

| PAGE EIGHT - Migration Consolidation & Enhancements CONTINUED | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|---|-----------------|----|-------------|----|----------------|----|-------------------|----|-------------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q |
| SHIPS MAINTENANCE & MATERIAL MANAGEMENT (3-M) | 3-M S/W DEV | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 3-M TEST & DOC | | 3-M IMPL ● | | | | | | | | | | | | | | | | | | | | | | | | | |
| ELECTRONIC FACILITIES & EQMT MGMT SYS (eFEM) | eFEM S/W DEV | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | eFEM TEST & DOC | | eFEM IMPL ● | | | | | | | | | | | | | | | | | | | | | | | | | |
| SHIPYARD SERVICE LIFE EXTENSION (SY SLE) | | | SY SLE IRB | | SY SLE ANLY | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | SY SLE S/W DEV | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | SY SLE TEST & DOC | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | SY SLE IMPL | | | | | | | | | | | | | | | | | | | |

2012PB - 0605013N - 2904

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE
 PE 0605013N: Information Technology
 Development

PROJECT
 2904: NAVSEA IT

| PAGE NINE - Central Hosting Model CONTINUED | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | | | | | | | | | | | | | |
|---|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|--|--|--|--|--|--|--|--|--|--|--|--|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | | | | | | | | | | | | |
| FINANCIAL TECHNICAL UPGRADE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| WORKFORCE MGMT TECHNICAL UPGRADE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MATERIAL MGMT UPGRADE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0605013N - 2904

UNCLASSIFIED

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0605013N: *Information Technology Development*

PROJECT

2904: *NAVSEA IT*

| PAGE TEN- Central Hosting Model CONTINUED | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | | |
|---|---------|----|----|----|---------|----|----|----|---------|----|----|---------------------------|---------|----|----|----|---------|----|----|----|----------------------|----|----|----|---------|----|----|----|--|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | |
| CONFIGURATION DATA MGRS DATABASE-OPEN ARCHITECHTURE (CDMD-OA) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | CDMD-OA UPGRDE IRB ● | | | | | | | | |
| SECURITY NEXT GENERATION UPGRADE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | SEC NEXT GEN UPGRDE IRB ● | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0605013N - 2904

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0605013N: *Information Technology Development*

PROJECT

2904: *NAVSEA IT*

| PAGE ELEVEN - Central Hosting Model CONTINUED | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | | |
|---|---------|----|----|-----------------------------|---------|------------------------------|---------------------------------|--------------------------------|------------------------------|----|----|----------------|---------|----|----|-----------------|---------|----|----|--------------------|-----------------------|-----------------|----|----|---------|----|----|----|--|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | |
| MULTIPLE UNIQUE IDENTIFICATION CODES SYS CONSOLIDATION | | | | MULTI-UIC SYS CONSOLDTN IRB | | MULTI-UIC SYS CONSOLDTN ANLY | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | MULTI-UIC SYS CONSOLDTN S/W DEV | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | MULTI-UIC CONSOLDTN TEST & DOC | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | MULTI-UIC SYS CONSOLDTN IMPL | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NAVY DATA ENVIRONMENT (NDE) UPGRADE | | | | | | | | | | | | NDE UPRGDE IRB | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | NDE UPRGDE ANLY | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | NDE UPRGDE S/W DEV | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | NDE UPRGDE TEST & DOC | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | NDE UPRGDE IMPL | | | | | | | |

2012PB - 0605013N - 2904

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0605013N: *Information Technology Development*

PROJECT

2904: *NAVSEA IT*

| PAGE TWELVE - Central Hosting Model CONTINUED | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | | | | | | | |
|---|---------|----|--------------------|----|---------|----|----------------------|----|---------|----|----|--------------------------|---------|----|----|----|--------------------|----|----|----|---------|----|----|----|---------|----|----|----|--|--|--|--|--|--|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | | | | | | |
| CORPORATE DATA WAREHOUSE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | CORP DATA W/H IRB | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | CORP DATA W/H ANLY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | CORP DATA W/H SW DEV | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | CORP DATA W/H TEST & DOC | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | CORP DATA W/H IMPL | | | | | | | | | | | | | | | | | |

2012PB - 0605013N - 2904

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE
 PE 0605013N: Information Technology
 Development

PROJECT
 2904: NAVSEA IT

| PAGE THIRTEEN - Central Hosting Model CONTINUED | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | | | | | | |
|---|---------|----|----|----|---------|----|----|----|---------|----|----|----|--|----|----|----|--|----|----|----|--|----|----|----|--|----|----|---|--|--|--|--|--|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | | | | | |
| CORPORATE DATA WAREHOUSE 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | C O R P D A T A W / H 2 I R B ● | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | C O R P D A T A W / H 2 A N L Y | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | C O R P D A T A W / H 2 S / W D E V | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | C O R P D A T A W / H 2 T E S T & D O C | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | C O R P D A T A W / H 2 I M P L ● | | | | | |

2012PB - 0605013N - 2904

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0605013N: *Information Technology*
 Development

PROJECT

2904: *NAVSEA IT*

| PAGE FOURTEEN- Central Hosting Model CONTINUED | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|--|---------|----|----|----|---------|----|----|------------------|-------------------|----|----|----------------------|---------|----|----|-------------------------|---------|----|----|----|---------|----|----|----|---------|----|----|----|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q |
| NAVY WORKLOAD & PERFORMANCE SYSTEM (NWPS) BUSINESS WAREHOUSE | | | | | | | | NWPS BUS W/H IRB | NWPS BUS W/H ONLY | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | NWPS BUS W/H S/W DEV | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | NWPS BUS W/H TEST & DOC | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | NWPS BUS W/H IMPL | | | | | | | | | | | | |
| ADVANCED INDUSTRIAL MAINTENANCE FOR REGIONAL MAINTENANCE CENTERS (AIM4RMSs) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0605013N - 2904

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 2904: <i>NAVSEA IT</i> |
|---|--|--|

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| PAGE ONE - Lean Systems Improvement | | | | |
| ELECTRONIC TECHNICAL WORK DOCUMENTS (eTWD): eTWD IRB Approval | 4 | 2011 | 4 | 2011 |
| ELECTRONIC TECHNICAL WORK DOCUMENTS (eTWD): eTWD Analysis | 1 | 2012 | 4 | 2012 |
| ELECTRONIC TECHNICAL WORK DOCUMENTS (eTWD): eTWD Software Development | 4 | 2012 | 4 | 2013 |
| ELECTRONIC TECHNICAL WORK DOCUMENTS (eTWD): eTWD Testing & Documentation | 4 | 2013 | 3 | 2014 |
| ELECTRONIC TECHNICAL WORK DOCUMENTS (eTWD): eTWD Implementation | 3 | 2014 | 3 | 2015 |
| SCHEDULING IMPROVEMENT: Scheduling Improvement IRB Approval | 4 | 2013 | 4 | 2013 |
| SCHEDULING IMPROVEMENT: Scheduling Improvement Analysis | 1 | 2014 | 3 | 2014 |
| SCHEDULING IMPROVEMENT: Scheduling Improvement Software Development | 3 | 2014 | 3 | 2015 |
| SCHEDULING IMPROVEMENT: Scheduling Improvement Testing & Documentation | 4 | 2015 | 2 | 2016 |
| SCHEDULING IMPROVEMENT: Scheduling Improvement Implementation | 4 | 2016 | 4 | 2016 |
| PARTS TRACKING SYSTEM (PTS): PTS IRB Approval | 4 | 2013 | 4 | 2013 |
| PARTS TRACKING SYSTEM (PTS): PTS Analysis | 1 | 2015 | 3 | 2015 |
| PARTS TRACKING SYSTEM (PTS): PTS Software Development | 3 | 2015 | 2 | 2016 |
| PARTS TRACKING SYSTEM (PTS): PTS Testing & Documentation | 2 | 2016 | 4 | 2016 |
| PARTS TRACKING SYSTEM (PTS): PTS Implementation | 4 | 2016 | 4 | 2016 |
| PAGE TWO - Lean Systems Improvement CONTINUED | | | | |
| SHOP FLOOR CONTROL (SFC) WORK INTEGRATION: SFC Work Integration IRB Approval | 4 | 2014 | 4 | 2014 |
| SHOP FLOOR CONTROL (SFC) WORK INTEGRATION: SFC Work Integration Analysis | 1 | 2015 | 3 | 2015 |

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 2904: <i>NAVSEA IT</i> |

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| SHOP FLOOR CONTROL (SFC) WORK INTEGRATION: SFC Work Integration Software Development | 3 | 2015 | 2 | 2016 |
| SHOP FLOOR CONTROL (SFC) WORK INTEGRATION: SFC Work Integration Testing & Documentation | 3 | 2016 | 4 | 2016 |
| SHOP FLOOR CONTROL (SFC) WORK INTEGRATION: SFC Work Integration Implementation | 4 | 2016 | 4 | 2016 |
| ITEM UNIQUE IDENTIFICATION (IUID): IUID IRB Approval | 4 | 2014 | 4 | 2014 |
| ITEM UNIQUE IDENTIFICATION (IUID): IUID Analysis | 1 | 2014 | 3 | 2014 |
| ITEM UNIQUE IDENTIFICATION (IUID): IUID Software Development | 3 | 2014 | 1 | 2015 |
| ITEM UNIQUE IDENTIFICATION (IUID): IUID Testing & Documentation | 1 | 2015 | 3 | 2015 |
| ITEM UNIQUE IDENTIFICATION (IUID): IUID Implementation | 4 | 2015 | 4 | 2015 |
| STRATEGIC HUMAN CAPITAL MGMT (SHCM): SHCM Software Development | 1 | 2010 | 3 | 2010 |
| STRATEGIC HUMAN CAPITAL MGMT (SHCM): SHCM Testing & Documentation | 1 | 2010 | 3 | 2010 |
| STRATEGIC HUMAN CAPITAL MGMT (SHCM): SHCM Implementation | 4 | 2010 | 4 | 2010 |
| PAGE THREE - Lean Systems Improvement CONTINUED | | | | |
| MOBILE WORKFORCE ENABLEMENT (MWE INFRA): MWE Infra Testing & Documentation | 1 | 2010 | 2 | 2010 |
| MOBILE WORKFORCE ENABLEMENT (MWE INFRA): MWE Infra Implementation | 3 | 2010 | 3 | 2010 |
| SCHEDULE WORKLOAD INTEGRATED FORECASTING TOOL (iSWIFT): iSWIFT IRB Approval | 2 | 2010 | 2 | 2010 |
| SCHEDULE WORKLOAD INTEGRATED FORECASTING TOOL (iSWIFT): iSWIFT Analysis | 2 | 2010 | 3 | 2011 |
| SCHEDULE WORKLOAD INTEGRATED FORECASTING TOOL (iSWIFT): iSWIFT Software Development | 4 | 2010 | 4 | 2010 |
| SCHEDULE WORKLOAD INTEGRATED FORECASTING TOOL (iSWIFT): iSWIFT Testing & Documentation | 4 | 2011 | 2 | 2012 |

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 2904: <i>NAVSEA IT</i> |

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| SCHEDULE WORKLOAD INTEGRATED FORECASTING TOOL (iSWIFT): iSWIFT Implementation | 1 | 2013 | 1 | 2013 |
| MAT'L ACCESS TECHNOLOGY MAT'L CONTROL TAG: MAT MCT IRB Approval | 1 | 2010 | 1 | 2010 |
| MAT'L ACCESS TECHNOLOGY MAT'L CONTROL TAG: MAT MCT Analysis | 1 | 2010 | 2 | 2010 |
| MAT'L ACCESS TECHNOLOGY MAT'L CONTROL TAG: MAT MCT Software Development | 2 | 2010 | 2 | 2010 |
| MAT'L ACCESS TECHNOLOGY MAT'L CONTROL TAG: MAT MCT Testing & Documentation | 3 | 2010 | 3 | 2010 |
| MAT'L ACCESS TECHNOLOGY MAT'L CONTROL TAG: MAT MCT Implementation | 1 | 2011 | 4 | 2011 |
| PAGE FOUR - Migration Consolidation & Enhancements | | | | |
| EXECUTION PRIORITIES: Execution Priorities IRB Approval | 1 | 2011 | 1 | 2011 |
| EXECUTION PRIORITIES: Execution Priorities Analysis | 1 | 2012 | 3 | 2012 |
| EXECUTION PRIORITIES: Execution Priorities Software Development | 3 | 2012 | 1 | 2013 |
| EXECUTION PRIORITIES: Execution Priorities Testing & Documentation | 1 | 2013 | 3 | 2013 |
| EXECUTION PRIORITIES: Execution Priorities Implementation | 3 | 2013 | 4 | 2013 |
| CONFIGURATION BASED PMS: Configuration Based PMS IRB Approval | 4 | 2011 | 4 | 2011 |
| CONFIGURATION BASED PMS: Configuration Based PMS Analysis | 1 | 2012 | 3 | 2012 |
| CONFIGURATION BASED PMS: Configuration Based PMS Software Development | 3 | 2012 | 4 | 2013 |
| CONFIGURATION BASED PMS: Configuration Based PMS Testing & Documentation | 4 | 2013 | 1 | 2014 |
| CONFIGURATION BASED PMS: Configuration Based PMS Implementation | 1 | 2014 | 3 | 2014 |
| PAGE FIVE - Migration Consolidation & Enhancements CONTINUED | | | | |
| MAINTENANCE & SHIPWORK PLANNING (MSWP): MSWP IRB Approval | 4 | 2013 | 4 | 2013 |
| MAINTENANCE & SHIPWORK PLANNING (MSWP): MSWP Analysis | 1 | 2014 | 3 | 2014 |
| MAINTENANCE & SHIPWORK PLANNING (MSWP): MSWP Software Development | 3 | 2013 | 1 | 2015 |
| MAINTENANCE & SHIPWORK PLANNING (MSWP): MSWP Testing & Documentation | 1 | 2015 | 3 | 2015 |

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 2904: <i>NAVSEA IT</i> |

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| MAINTENANCE & SHIPWORK PLANNING (MSWP): MSWP Implementation | 3 | 2015 | 4 | 2015 |
| ELECTRONIC FACILITIES & EQMT MGMT SYS (eFEM 12): eFEM12 IRB Approval | 4 | 2011 | 4 | 2011 |
| ELECTRONIC FACILITIES & EQMT MGMT SYS (eFEM 12): eFEM12 Analysis | 1 | 2012 | 1 | 2012 |
| ELECTRONIC FACILITIES & EQMT MGMT SYS (eFEM 12): eFEM12 Software Development | 2 | 2012 | 3 | 2012 |
| ELECTRONIC FACILITIES & EQMT MGMT SYS (eFEM 12): eFEM12 Testing & Documentation | 3 | 2012 | 4 | 2012 |
| ELECTRONIC FACILITIES & EQMT MGMT SYS (eFEM 12): eFEM12 Implementation | 4 | 2012 | 4 | 2012 |
| PAGE SIX - Migration Consolidation & Enhancements CONTINUED | | | | |
| LOCAL SHIPYARD APPLICATIONS: Local Shipyard Apps IRB Approval | 4 | 2013 | 4 | 2013 |
| LOCAL SHIPYARD APPLICATIONS: Local Shipyard Apps Analysis | 1 | 2014 | 3 | 2014 |
| LOCAL SHIPYARD APPLICATIONS: Local Shipyard Apps Software Development | 4 | 2014 | 4 | 2015 |
| LOCAL SHIPYARD APPLICATIONS: Local Shipyard Apps Testing & Documentation | 4 | 2015 | 1 | 2016 |
| LOCAL SHIPYARD APPLICATIONS: Local Shipyard Apps Implementation | 1 | 2015 | 3 | 2015 |
| OUTFITTING INTEGRATION: Outfitting Integration IRB Approval | 4 | 2015 | 4 | 2015 |
| OUTFITTING INTEGRATION: Outfitting Integration Analysis | 1 | 2016 | 3 | 2016 |
| ALLOWANCING INTEGRATION: Allowancing Integration IRB Approval | 4 | 2015 | 4 | 2015 |
| ALLOWANCING INTEGRATION: Allowancing Integration Analysis | 1 | 2016 | 3 | 2016 |
| PAGE SEVEN - Migration Consolidation & Enhancements CONTINUED | | | | |
| ELECTRONIC FACILITIES & EQUIPMENT MGMT SYSTEM (eFEM 14): eFEM14 IRB Approval | 4 | 2013 | 4 | 2013 |
| ELECTRONIC FACILITIES & EQUIPMENT MGMT SYSTEM (eFEM 14): eFEM14 Analysis | 1 | 2014 | 1 | 2014 |
| ELECTRONIC FACILITIES & EQUIPMENT MGMT SYSTEM (eFEM 14): eFEM14 Software Development | 2 | 2014 | 2 | 2014 |

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 2904: <i>NAVSEA IT</i> |

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| ELECTRONIC FACILITIES & EQUIPMENT MGMT SYSTEM (eFEM 14): eFEM14 Testing & Documentation | 3 | 2014 | 4 | 2014 |
| ELECTRONIC FACILITIES & EQUIPMENT MGMT SYSTEM (eFEM 14): eFEM14 Implementation | 4 | 2014 | 4 | 2014 |
| ELECTRONIC FACILITIES & EQMT MGMT SYS (eFEM 16): eFEM16 IRB Approval | 4 | 2015 | 4 | 2015 |
| ELECTRONIC FACILITIES & EQMT MGMT SYS (eFEM 16): eFEM16 Analysis | 1 | 2016 | 1 | 2016 |
| ELECTRONIC FACILITIES & EQMT MGMT SYS (eFEM 16): eFEM16 Software Development | 2 | 2016 | 2 | 2016 |
| ELECTRONIC FACILITIES & EQMT MGMT SYS (eFEM 16): eFEM16 Testing & Documentation | 3 | 2016 | 4 | 2016 |
| ELECTRONIC FACILITIES & EQMT MGMT SYS (eFEM 16): eFEM16 Implementation | 4 | 2016 | 4 | 2016 |
| NAVY WORKLOAD & PERFORMANCE SYSTEM (NWPS): NWPS Software Development | 1 | 2010 | 3 | 2010 |
| NAVY WORKLOAD & PERFORMANCE SYSTEM (NWPS): NWPS Testing & Documentation | 3 | 2010 | 4 | 2010 |
| NAVY WORKLOAD & PERFORMANCE SYSTEM (NWPS): NWPS Implementation | 4 | 2010 | 2 | 2011 |
| PAGE EIGHT - Migration Consolidation & Enhancements CONTINUED | | | | |
| SHIPS MAINTENANCE & MATERIAL MANAGEMENT (3-M): 3-M Software Development | 1 | 2010 | 2 | 2010 |
| SHIPS MAINTENANCE & MATERIAL MANAGEMENT (3-M): 3-M Testing & Documentation | 1 | 2010 | 2 | 2010 |
| SHIPS MAINTENANCE & MATERIAL MANAGEMENT (3-M): 3-M Implementation | 3 | 2010 | 3 | 2010 |
| ELECTRONIC FACILITIES & EQMT MGMT SYS (eFEM): eFEM Software Development | 1 | 2010 | 2 | 2010 |
| ELECTRONIC FACILITIES & EQMT MGMT SYS (eFEM): eFEM Testing & Documentation | 1 | 2010 | 2 | 2010 |

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 2904: <i>NAVSEA IT</i> |

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| ELECTRONIC FACILITIES & EQMT MGMT SYS (eFEM): eFEM Implementation | 3 | 2010 | 3 | 2010 |
| SHIPYARD SERVICE LIFE EXTENSION (SY SLE): SY SLE IRB Approval | 4 | 2010 | 1 | 2011 |
| SHIPYARD SERVICE LIFE EXTENSION (SY SLE): SY SLE Analysis | 2 | 2011 | 3 | 2011 |
| SHIPYARD SERVICE LIFE EXTENSION (SY SLE): SY SLE Software Development | 3 | 2011 | 4 | 2011 |
| SHIPYARD SERVICE LIFE EXTENSION (SY SLE): SY SLE Testing & Documentation | 4 | 2011 | 1 | 2012 |
| SHIPYARD SERVICE LIFE EXTENSION (SY SLE): SY SLE Implementation | 1 | 2012 | 4 | 2012 |
| PAGE NINE - Central Hosting Model CONTINUED | | | | |
| FINANCIAL TECNICAL UPGRADE: Financial Tech Upgrade IRB Approval | 4 | 2014 | 4 | 2014 |
| FINANCIAL TECNICAL UPGRADE: Financial Tech Upgrade Analysis | 1 | 2015 | 1 | 2016 |
| FINANCIAL TECNICAL UPGRADE: Financial Tech Upgrade Software Development | 1 | 2016 | 4 | 2016 |
| WORKFORCE MGMT TECHNICAL UPGRADE: Workforce Mgmt Tech Upgrade IRB Approval | 2 | 2015 | 2 | 2015 |
| WORKFORCE MGMT TECHNICAL UPGRADE: Workforce Mgmt Tech Upgrade Analysis | 3 | 2015 | 2 | 2016 |
| MATERIAL MGMT UPGRADE: Material Mgmt Upgrade IRB Approval | 4 | 2015 | 4 | 2015 |
| MATERIAL MGMT UPGRADE: Material Mgmt Upgrade Analysis | 1 | 2016 | 3 | 2016 |
| PAGE TEN- Central Hosting Model CONTINUED | | | | |
| CONFIGURATION DATA MGRS DATABASE-OPEN ARCHITECHTURE (CDMD-OA): CDMD-OA Upgrade IRB Approval | 4 | 2015 | 4 | 2015 |
| CONFIGURATION DATA MGRS DATABASE-OPEN ARCHITECHTURE (CDMD-OA): CDMD-OA Upgrade Analysis | 1 | 2016 | 3 | 2016 |
| CONFIGURATION DATA MGRS DATABASE-OPEN ARCHITECHTURE (CDMD-OA): CDMD-OA Upgrade Software Development | 3 | 2016 | 3 | 2016 |
| SECURITY NEXT GENERATION UPGRADE: Security Next Generation Upgrade IRB Approval | 4 | 2012 | 4 | 2012 |
| | 1 | 2013 | 1 | 2014 |

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 2904: <i>NAVSEA IT</i> |

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| SECURITY NEXT GENERATION UPGRADE: Security Next Generation Upgrade Analysis | | | | |
| SECURITY NEXT GENERATION UPGRADE: Security Next Generation Upgrade Software Development | 1 | 2014 | 2 | 2015 |
| SECURITY NEXT GENERATION UPGRADE: Security Next Generation Testing & Documentation | 2 | 2015 | 2 | 2016 |
| SECURITY NEXT GENERATION UPGRADE: Security Next Generation Implementation | 2 | 2016 | 4 | 2016 |
| PAGE ELEVEN - Central Hosting Model CONTINUED | | | | |
| MULTIPLE UNIQUE IDENTIFICATION CODES SYS CONSOLIDATION: Multi-UIC Systems Consolidation IRB Approval | 4 | 2010 | 1 | 2011 |
| MULTIPLE UNIQUE IDENTIFICATION CODES SYS CONSOLIDATION: Multi-UIC Systems Consolidation Analysis | 2 | 2011 | 3 | 2011 |
| MULTIPLE UNIQUE IDENTIFICATION CODES SYS CONSOLIDATION: Multi-UIC Systems Consolidation Software Development | 3 | 2011 | 4 | 2011 |
| MULTIPLE UNIQUE IDENTIFICATION CODES SYS CONSOLIDATION: Multi-UIC Systems Consolidation Testing & Documentation | 4 | 2011 | 1 | 2012 |
| MULTIPLE UNIQUE IDENTIFICATION CODES SYS CONSOLIDATION: Multi-UIC Systems Consolidation Implementation | 1 | 2012 | 4 | 2012 |
| NAVY DATA ENVIRONMENT (NDE) UGRADE: NDE Upgrade IRB Approval | 4 | 2012 | 4 | 2012 |
| NAVY DATA ENVIRONMENT (NDE) UGRADE: NDE Upgrade Analysis | 1 | 2013 | 3 | 2013 |
| NAVY DATA ENVIRONMENT (NDE) UGRADE: NDE Upgrade Software Development | 3 | 2013 | 2 | 2014 |
| NAVY DATA ENVIRONMENT (NDE) UGRADE: NDE Upgrade Testing & Documentation | 4 | 2013 | 3 | 2014 |
| NAVY DATA ENVIRONMENT (NDE) UGRADE: NDE Upgrade Implementation | 3 | 2014 | 4 | 2014 |
| PAGE TWELVE - Central Hosting Model CONTINUED | | | | |

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 2904: <i>NAVSEA IT</i> |

| Events by Sub Project | Start | | End | |
|---|----------------|-------------|----------------|-------------|
| | Quarter | Year | Quarter | Year |
| CORPORATE DATA WAREHOUSE: Corporate Data Warehouse IRB Approval | 3 | 2010 | 3 | 2010 |
| CORPORATE DATA WAREHOUSE: Corporate Data Warehouse Analysis | 3 | 2010 | 2 | 2011 |
| CORPORATE DATA WAREHOUSE: Corporate Data Warehouse Software Development | 2 | 2011 | 1 | 2012 |
| CORPORATE DATA WAREHOUSE: Corporate Data Warehouse Testing & Documentation | 1 | 2012 | 3 | 2012 |
| CORPORATE DATA WAREHOUSE: Corporate Data Warehouse Implementation | 3 | 2012 | 4 | 2012 |
| PAGE THIRTEEN - Central Hosting Model CONTINUED | | | | |
| CORPORATE DATA WAREHOUSE 2: Corporate Data Warehouse 2 IRB Approval | 4 | 2012 | 4 | 2012 |
| CORPORATE DATA WAREHOUSE 2: Corporate Data Warehouse 2 Analysis | 1 | 2013 | 3 | 2013 |
| CORPORATE DATA WAREHOUSE 2: Corporate Data Warehouse 2 Software Development | 3 | 2013 | 2 | 2014 |
| CORPORATE DATA WAREHOUSE 2: Corporate Data Warehouse 2 Testing & Documentation | 2 | 2014 | 4 | 2014 |
| CORPORATE DATA WAREHOUSE 2: Corporate Data Warehouse 2 Implementation | 4 | 2014 | 4 | 2014 |
| PAGE FOURTEEN- Central Hosting Model CONTINUED | | | | |
| NAVY WORKLOAD & PERFORMANCE SYSTEM (NWPS) BUSINESS WAREHOUSE: NWPS Business Warehouse IRB Approval | 4 | 2011 | 4 | 2011 |
| NAVY WORKLOAD & PERFORMANCE SYSTEM (NWPS) BUSINESS WAREHOUSE: NWPS Business Warehouse Analysis | 1 | 2012 | 3 | 2012 |
| NAVY WORKLOAD & PERFORMANCE SYSTEM (NWPS) BUSINESS WAREHOUSE: NWPS Business Warehouse Software Development | 3 | 2012 | 2 | 2013 |
| NAVY WORKLOAD & PERFORMANCE SYSTEM (NWPS) BUSINESS WAREHOUSE: NWPS Business Warehouse Testing & Documentation | 2 | 2013 | 3 | 2013 |
| NAVY WORKLOAD & PERFORMANCE SYSTEM (NWPS) BUSINESS WAREHOUSE: NWPS Business Warehouse Implementation | 1 | 2013 | 4 | 2013 |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 2904: <i>NAVSEA IT</i> |
|---|--|--|

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| ADVANCED INDUSTRIAL MAINTENANCE FOR REGIONAL MAINTENANCE CENTERS (AIM4RMSs): AIM4RMCs Software Development | 1 | 2010 | 1 | 2011 |
| ADVANCED INDUSTRIAL MAINTENANCE FOR REGIONAL MAINTENANCE CENTERS (AIM4RMSs): AIM4RMCs Testing & Documentation | 1 | 2011 | 3 | 2011 |
| ADVANCED INDUSTRIAL MAINTENANCE FOR REGIONAL MAINTENANCE CENTERS (AIM4RMSs): AIM4RMCs Implementation | 3 | 2011 | 1 | 2012 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 2905: <i>BUPERS IT</i> |
|---|--|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|----------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 2905: <i>BUPERS IT</i> | - | - | 12.530 | - | 12.530 | - | - | - | - | 0.000 | 12.530 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

Note

FY09 and FY10 funds were in PE 0605013N project 2907.

A. Mission Description and Budget Item Justification

BILLET BASE DISTRIBUTION (BBD): Due to the changing needs of the Navy, transformation of the requisition generation and assignment processes is necessary. Current requisition generation and distribution processes utilize an inventory-based system that does not fully reflect the actual needs of Navy commands or accurately identify the Sailor's currently assigned position. This methodology hinders the ability to accurately measure or ensure personnel readiness, leaving gaps in skills-to-position requirements. Commands, Immediate Superior in Chain (ISIC), Type Commanders (TYCOM), Major Manpower Claimant (MMC), United States Fleet Forces (USFF), Manning Control Authorities (MCA), and Distribution and Placement personnel currently lack the capabilities necessary to align and sustain sailors in discrete positions. Furthermore, they cannot determine the actual knowledge, skills and abilities critical to mission execution that a command lacks, or analyze a command's manning. The objective of Billet Based Distribution (BBD) is to replace the current inventory-based requisition generation process with automated functionality, which is requirements driven, inventory-balanced, and position-based. This methodology will increase personnel readiness, improve fit, and provide clear visibility to the impact on mission readiness at the billet level. BBD will facilitate maximizing the contributions of every member of the Navy workforce by delivering competency-based career paths. BBD will be accomplished in three phases; Phase I (Initial Alignment), Phase II (Sustainment Alignment), and Phase III (Optimized Assignments).

PERSONALIZED RECRUITING FOR IMMEDIATE AND DELAYED ENLISTMENTS (PRIDE) MODERNIZATION (MOD) II is the center-piece of Naval Recruiting Command (NRC) IT Roadmap and provides a way forward for NRC's Agenda for Change. Release-II will consolidate Reserve Component, Active Component, Officer and processing into a single, integrated recruiting processing system. Release II will retire Command Integrated Recruiting Information Management System (CIRIMS), Navy

Accessions Security Information System (NASIS), Web Based Officer Tools (WEBTOOLS), and Military Incentive Tracking, Accounting and Payment System (MILTAP). It will incorporate a "turbo-tax" type forms solution and incorporate biometric personal identification, eliminating the requirement for a "wet" signature. In addition, Release II will include functionality not executed under Release-I due to funding constraints.

As highlighted during NRC's Paperless briefing to Navy Total Force (NTF) Flag and Working Groups in November, PRIDE Modernization Release II will continue the modernize N1's accession business processes and data flows. The system moves the organization from antiquated business processes (hardcopies, fax, manual data exchange) into a real-time, end-to-end connectivity across the enterprise. It also sets the groundwork for the "mobile recruiter" initiative outlined in the Recruiter of the Future 2020 initiative as well as the Naval Task Force (NTF) Authoritative Data Environment. Both, the NTF Flag and Working Groups, recognized the vast significance this initiative will have on the N1 Enterprise and signified the need to keep the project on track.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 2905: <i>BUPERS IT</i> |
|---|--|--|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|--------------|-------------|---------------|
| <p>Title: Billet Based Distribution (BBD)</p> <p align="right">Articles:</p> <p>FY 2012 Base Plans: Plans are to perform a detailed requirements analysis, system engineering reviews, and begin software development.</p> | - | - | 6.830 0 | - | 6.830 0 |
| <p>Title: Personalized Recruiting for Immediate and Delayed Enlistment Modernization (PRIDE MOD) II</p> <p align="right">Articles:</p> <p>FY 2012 Base Plans: Perform a review of system requirement of PRIDE, conduct a critical design review, perform software development, and complete testing.</p> | - | - | 5.700 0 | - | 5.700 0 |
| Accomplishments/Planned Programs Subtotals | - | - | 12.530 | - | 12.530 |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

BBD acquisition will be through contract technical services. The required services will be procured through a competitive performance-based service acquisition. Acquisition will be primarily through SPAWAR Systems Center Atlantic, New Orleans. An incremental development approach will be used. PRIDE MOD II acquisition will be through contract technical services contract award. The required services will be procured through a competitive performance-based service acquisition using Cost Plus Fixed Fee (CPFF) and Firm Fixed Price (FFP) contracts.

E. Performance Metrics

BBD: Meet program, system engineering and technical review milestones for development of BBD Phase I.

PRIDE MOD II: Meet program and systems engineering and technical review milestones for deployment of a PRIDE MOD PHASE II, with no outstanding severity 1-3 defects for production release.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology</i> <i>Development</i> | PROJECT 2905: <i>BUPERS IT</i> |
|---|--|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| BBD Requirement Analysis | C/FP | Unknown:Unknown | - | - | | 0.504 | Oct 2011 | - | | 0.504 | 0.000 | 0.504 | 0.504 |
| BBD System Engineering | C/FP | Unknown:Unknown | - | - | | 6.326 | Oct 2011 | - | | 6.326 | 0.000 | 6.326 | 6.326 |
| PRIDE MOD II System Design and Development | C/FP | Unknown:Unknown | - | - | | 3.300 | Oct 2011 | - | | 3.300 | 0.000 | 3.300 | 3.300 |
| Subtotal | | | - | - | | 10.130 | | - | | 10.130 | 0.000 | 10.130 | 10.130 |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|-------------------------------------|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| PRIDE MOD II Interface Development | C/FP | Unknown:Unknown | - | - | | 1.200 | Oct 2011 | - | | 1.200 | 0.000 | 1.200 | 1.200 |
| PRIDE MOD II Government Data Center | C/FP | Unknown:Unknown | - | - | | 0.600 | Oct 2011 | - | | 0.600 | 0.000 | 0.600 | 0.600 |
| Subtotal | | | - | - | | 1.800 | | - | | 1.800 | 0.000 | 1.800 | 1.800 |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| PRIDE MOD II Test and Evaluation | C/FP | Unknown:Unknown | - | - | | 0.200 | Oct 2011 | - | | 0.200 | 0.000 | 0.200 | 0.200 |
| Subtotal | | | - | - | | 0.200 | | - | | 0.200 | 0.000 | 0.200 | 0.200 |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| PRIDE MOD II Management | C/FP | Unknown:Unknown | - | - | | 0.400 | Oct 2011 | - | | 0.400 | 0.000 | 0.400 | 0.400 |
| Subtotal | | | - | - | | 0.400 | | - | | 0.400 | 0.000 | 0.400 | 0.400 |

UNCLASSIFIED

UNCLASSIFIED

| | | | | | | | | | | |
|---|-------------------------------|--|--|---------------------|--------------------|----------------------|--|-------------------|---------------------------------|--|
| Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy | | | | | | | DATE: February 2011 | | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | | | | PROJECT 2905: <i>BUPERS IT</i> | | | |
| | Total Prior Years Cost | | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract | |
| Project Cost Totals | - | | - | 12.530 | - | 12.530 | 0.000 | 12.530 | 12.530 | |

Remarks

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 2905: <i>BUPERS IT</i> |

| | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Proj 2905 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BBD Source Selection1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BBD System Requirements Review | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BBD Preliminary Design Review | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BBD Critical Design Review | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BBD User Acceptance Testing | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BBD Release Review Board/Production Rollout | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BBD Pre-Solicitation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BBD Request for Proposals | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BBD Source Selection | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| BBD Contract Award/Execution | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PRIDE MOD II Source Selection | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PRIDE MOD II System Requirements Review | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PRIDE MOD II Preliminary Design Review | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PRIDE MOD II Critical Design Review | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PRIDE MOD II User Acceptance Testing | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PRIDE MOD II Release Review Board/ Production rollout | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 2905: <i>BUPERS IT</i> |
|---|--|--|

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 2905 | | | | |
| BBD Source Selection1 | 1 | 2012 | 2 | 2012 |
| BBD System Requirements Review | 3 | 2012 | 4 | 2012 |
| BBD Preliminary Design Review | 4 | 2012 | 1 | 2013 |
| BBD Critical Design Review | 2 | 2013 | 4 | 2013 |
| BBD User Acceptance Testing | 1 | 2014 | 2 | 2014 |
| BBD Release Review Board/Production Rollout | 3 | 2014 | 3 | 2014 |
| BBD Pre-Solicitation | 1 | 2012 | 1 | 2012 |
| BBD Request for Proposals | 2 | 2012 | 2 | 2012 |
| BBD Source Selection | 3 | 2012 | 4 | 2012 |
| BBD Contract Award/Execution | 1 | 2012 | 1 | 2012 |
| PRIDE MOD II Source Selection | 1 | 2012 | 2 | 2012 |
| PRIDE MOD II System Requirements Review | 3 | 2012 | 4 | 2012 |
| PRIDE MOD II Preliminary Design Review | 4 | 2012 | 1 | 2013 |
| PRIDE MOD II Critical Design Review | 2 | 2013 | 4 | 2013 |
| PRIDE MOD II User Acceptance Testing | 1 | 2014 | 1 | 2014 |
| PRIDE MOD II Release Review Board/Production rollout | 3 | 2014 | 3 | 2014 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 2907: <i>RESFOR IT</i> |
|---|--|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|----------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 2907: <i>RESFOR IT</i> | 3.367 | - | - | - | - | - | - | - | - | 0.000 | 3.367 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Sea Warrior includes the Navy manpower management, career management, personnel distribution, recruiting and accessions, training and education information technology systems. The products produced by the Sea Warrior Program Management Office support the Navy mission by ensuring the best available fit of personnel to work. Funding is for (1) implementation of deferred or new engineering change proposals executed as block updates (CMS/ID, Maintenance Upgrade (MU1B-3), and MU1B-4) with new functionality; and (2) design and development of an enterprise training management and delivery capability to replace the current Navy elearning delivery platform.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|------------|---------|--------------|-------------|---------------|
| Title: Sea Warrior Command Career Management System/Interactive Detailing (CMS-ID) Development/Moderization Articles: | 0.935 2 | - | - | - | - |
| FY 2010 Accomplishments: Upgrades include active and reserve force capability integration. | | | | | |
| Title: Sea Warrior Enterprise Training Management and Delivery System (ETMDS) Articles: | 2.432 0 | - | - | - | - |
| FY 2010 Accomplishments: Complete system design and development and begin testing. | | | | | |
| Accomplishments/Planned Programs Subtotals | 3.367 | - | - | - | - |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

Sea Warrior PMO will follow an incremental development approach to develop future capability. Each increment will be established and approved by OPNAV. Each increment will follow an annual cycle with one major release within the year.
 SW CMS/ID Development Modernization - existing Service System Center New Orleans (SSC NOLA) Systems Engineering and Technical Assistance (SETA) contract will be used for this effort.

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 2907: <i>RESFOR IT</i> |

SW ETMDS - This was a competitive contract that was awarded in July 2010 to Booz, Allen, Hamilton (BAH).

E. Performance Metrics

1. CMS-ID: System design, development, and deployment were completed for MU1B-3 in first quarter FY10 and for MU1B-4 in third quarter of FY10.
2. ETMDS: Test Readiness Review will be completed b April 2012 and development and operational testing completed June 2012 to meet IOC scheduled August 2012.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 2907: <i>RESFOR IT</i> |
|---|--|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Plans/System Decomposition | C/FP | Various:New Orleans, LA | 0.607 | - | | - | | - | | - | 0.000 | 0.607 | 1.027 |
| System Engineering | C/FP | Various:New Orleans, LA | 0.473 | - | | - | | - | | - | 0.000 | 0.473 | 0.473 |
| Licenses | C/FP | Various:New Orleans, LA | 0.225 | - | | - | | - | | - | 0.000 | 0.225 | 0.225 |
| Systems Engineering2 | C/FP | Various:New Orleans, LA | 1.017 | - | | - | | - | | - | 0.000 | 1.017 | 1.017 |
| Subtotal | | | 2.322 | - | | - | | - | | - | 0.000 | 2.322 | 2.742 |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Development Support | C/FP | Various:New Orleans, LA | 0.297 | - | | - | | - | | - | 0.000 | 0.297 | 0.297 |
| Software Development | C/FP | Various:New Orleans, LA | 1.542 | - | | - | | - | | - | 0.000 | 1.542 | 1.542 |
| Training Development | C/FP | Various:New Orleans, LA | 0.371 | - | | - | | - | | - | 0.000 | 0.371 | 0.371 |
| Integrated Logistics Support | C/FP | Various:New Orleans, LA | 0.297 | - | | - | | - | | - | 0.000 | 0.297 | 0.297 |
| Configuration Management | C/FP | Various:New Orleans, LA | 0.153 | - | | - | | - | | - | 0.000 | 0.153 | 0.153 |
| Technical Data | C/FP | Various:New Orleans, LA | 0.227 | - | | - | | - | | - | 0.000 | 0.227 | 0.227 |
| Software Development | C/FP | Various:Pensacola, FL | 1.233 | - | | - | | - | | - | 0.000 | 1.233 | 0.813 |
| Training Development | C/FP | Various:Pensacola, FL | 0.195 | - | | - | | - | | - | 0.000 | 0.195 | 0.195 |
| Integrated Logistics Support | C/FP | Various:Pensacola, FL | 0.156 | - | | - | | - | | - | 0.000 | 0.156 | 0.156 |
| Configuration Management | C/FP | Various:Pensacola, FL | 0.063 | - | | - | | - | | - | 0.000 | 0.063 | 0.063 |
| Technical Data | C/FP | Various:Pensacola, FL | 0.117 | - | | - | | - | | - | 0.000 | 0.117 | 0.117 |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 2907: <i>RESFOR IT</i> |
|---|--|--|

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | | |
|---------------------------------|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|--|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract | |
| Software Development3 | C/FP | Various:Pensacola, FL | 0.400 | - | | - | | - | | - | 0.000 | 0.400 | 0.400 | |
| Interface Development | C/FP | Various:Pensacola, FL | 0.200 | - | | - | | - | | - | 0.000 | 0.200 | 0.200 | |
| Subtotal | | | 5.251 | - | | - | | - | | - | 0.000 | 5.251 | 4.831 | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|--|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract | |
| Acquisition, final design | C/FP | Various:Various | 0.420 | - | | - | | - | | - | 0.000 | 0.420 | 0.420 | |
| Subtotal | | | 0.420 | - | | - | | - | | - | 0.000 | 0.420 | 0.420 | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|--|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract | |
| Development Support | C/FP | Various:Various | 0.156 | - | | - | | - | | - | 0.000 | 0.156 | 0.156 | |
| Systems Engineering | C/FP | Various:Various | 0.902 | - | | - | | - | | - | 0.000 | 0.902 | 0.902 | |
| Subtotal | | | 1.058 | - | | - | | - | | - | 0.000 | 1.058 | 1.058 | |

| | Total Prior Years Cost | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|------------------------|---------|--------------|-------------|---------------|------------------|------------|--------------------------|
| Project Cost Totals | | 9.051 | - | - | - | 0.000 | 9.051 | 9.051 |

Remarks

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 3026: <i>ERP Convergence</i> |
|---|--|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 3026: <i>ERP Convergence</i> | 16.501 | - | - | - | - | - | - | - | - | 0.000 | 16.501 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

The Navy Enterprise Resource Planning (ERP) solution is an integrated business management system that modernizes and standardizes Navy's business processes. Navy ERP utilizes best commercial practices to provide real-time information exchange, unprecedented financial and asset visibility, and improved reporting and decision-making capabilities across key acquisition, financial, and logistics operations.

Navy ERP is the tool chosen to meet Congressional mandates to establish and maintain federal financially compliant management systems, federal accounting standards, and US Government General Ledger procedures at the transaction level. The Navy ERP foundation to achieve enterprise-wide business transformation is accomplished through two releases: the Financial/Acquisition Solution and the Single Supply Solution. In October 2008, ASN FM&C designated Navy ERP the Navy's Financial System of Record. The Navy has already encountered and overcome a broad range of challenges to successfully deploy financial, acquisition, and workforce management capabilities to four System Commands. These Commands include over 40,000 users and cover about \$63B of the Navy's Total Obligation Authority (TOA). Navy ERP is currently in the process of deploying the Single Supply Solution, which will be complete in FY12, providing an integrated financial and supply functionality projected to result in significant inventory savings. The Program of Record future deployments include the Financial/Acquisition Solution to Naval Sea Systems Command (NAVSEA) (Working Capital Fund) in October 2011, and the Office of Naval Research (ONR) and Strategic Systems Programs (SSP) in October 2012.

The Navy has committed to implementing the Navy ERP capabilities across the full Navy enterprise in order to tie Navy business processes together in a single system, provide unprecedented financial transparency, and increase asset visibility. This will ultimately increase the percentage of Navy TOA managed within the ERP system from 50% to approximately 100% and increase the number of users from approximately 66,000 to approximately 143,000.

Program development completed in FY10; no further RDTEN funding required in the outyears.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|--------------|-------------|---------------|
| Title: Primary Development | 14.451 | - | - | - | - |
| Articles: | 0 | | | | |
| FY 2010 Accomplishments: Funding completed the development of the Single Supply Solution. | | | | | |
| Title: Development Support | 0.949 | - | - | - | - |
| Articles: | 0 | | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 3026: <i>ERP Convergence</i> |
|---|--|--|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|---------|---------|--------------|-------------|---------------|
| <i>FY 2010 Accomplishments:</i> Funding completed support of the development of the Single Supply Solution. | | | | | |
| <i>Title:</i> Test /Quality Assurance | 1.101 | - | - | - | - |
| <i>Articles:</i> | 0 | | | | |
| <i>FY 2010 Accomplishments:</i> Supported User Acceptance Testing and Operational Testing required for the February 2010 Release 1.1 Go Live to NAVICP Philadelphia and Mechanicsburg. | | | | | |
| Accomplishments/Planned Programs Subtotals | 16.501 | - | - | - | - |

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | <u>Cost To Complete</u> | <u>Total Cost</u> |
|--|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|-------------------------|-------------------|
| • OPN: 8106 <i>Command Support Equipment</i> | 4.046 | 5.009 | 5.522 | 0.000 | 5.522 | 4.505 | 1.377 | 6.909 | 5.410 | Continuing | Continuing |

D. Acquisition Strategy

A competitive contract for Wholesale and Retail Supply functionality was awarded June 2007.

E. Performance Metrics

Navy ERP has demonstrated streamlined business practices and reduced IT costs. Benefit Metrics have been established and current indicators show: less manual intervention required; higher interface success rates with improved data matching; and significantly improved data quality.

Several business process improvements are tracked and measured. In CY09, for example, Navy ERP attained the following:

- \$80.7M Value Of Unmatched Disbursements to \$29.9B matched (0.3% unmatched)
- Capable of performing a financial close in 2 Days for General Fund against a requirement of reporting on the 4th calendar day; 5 days for NWCF against a requirement of reporting on the 6th calendar day
- \$1.575M Undistributed Labor (25,939 hours) to \$762.299M (11,419,838 hours) that posts (0.2% undistributed)
- 99.9% of employee time entered and certified each Pay Period
- \$128.2M / 250,000 Timesheet records processed per pay period
- 99.8% of Labor transfers post and available for billing (0.2% undistributed; \$1.6M undistributed labor (25,939 hours) to \$762.3M (11,419,838 hours))
- Ability to process 400,000 DCPS pay records in less than 3 hours

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | R-1 ITEM NOMENCLATURE | PROJECT |
|---|--|------------------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | PE 0605013N: <i>Information Technology Development</i> | 3026: <i>ERP Convergence</i> |

Deployment of Navy ERP has enabled retirement of 16 legacy systems to date with a \$116M cost avoidance realized in FY08 - FY10. By 2016, 80 more legacy systems are to be retired, generating a cost avoidance of \$574M over FY11 - FY16.

Additionally, Navy ERP employs Earned Value Metrics to monitor contract performance of major development and support contracts.

The current Navy ERP production release is 98% compliant with Federal Financial Management Requirements for Systems.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 3034.: <i>Future Personnel and Pay Solution</i> |
|---|--|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 3034.: <i>Future Personnel and Pay Solution</i> | 12.782 | - | - | - | - | - | - | - | - | 0.000 | 12.782 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

Note
Funding for project 3034 has moved from PE 0605013N to PE 0605018N beginning in FY11.

A. Mission Description and Budget Item Justification

Funding supports Future Personnel and Pay Solution (FPPS) design, development and modernization efforts. Provides development, integration, engineering, and test support of future pay and personnel system capabilities, including the modernization and consolidation of existing pay and personnel systems re-using the DIMHRS core software to the maximum extent practical. Includes (1) development of specifications and design of solutions to consolidate Navy legacy personnel systems, development of a single operational data store of personnel data, and development and modernization of legacy interfaces that must remain beyond the consolidation effort, (2) replace the pay capability provided by the Defense Joint Military Pay System (DJMS), providing for Navy specific requirements for pay and personnel management, and develop external interfaces as required to support pay management for the Navy, (3) development and modernization support from the functional organization, (4) Operational Test and Evaluation support for the selected future pay and personnel solution.

Funding supports Future Pay and Personnel Solution (FPPS) design, development and modernization efforts. Provides development, integration, and support of future pay and personnel system capabilities, including the modernization and consolidation of existing pay and personnel systems into the DIMHRS core and remaining Navy-unique development and modernization efforts for a fully integrated pay and personnel solution. Includes (1) development of specifications and design of solutions to integrate with DIMHRS core and/or other selected pay and personnel products, (2) design and development of solutions to provide remaining Navy-unique capabilities defined by a Navy gap analysis; (3) staffing of the Navy program office, development and modernization support from the functional organization, (4) development and modernization of remaining legacy system interfaces; (5) development of the authoritative data store and interfaces with the DIMHRS core and other pay and personnel products; and Operational Test and Evaluation of the selected future pay and personnel solution.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|---------|---------|--------------|-------------|---------------|
| Title: Future Personnel and Pay Solution | 10.395 | - | - | - | - |
| Articles: | 0 | | | | |
| FY 2010 Accomplishments: Risk Reduction Phase: Conducted analysis of the software maturity and capabilities provided in the DIMHRS core software baseline. Conducted legacy system analysis for NES, OPINS, IMAPMIS, RHS, NPDB and NSIPS, | | | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 3034.: <i>Future Personnel and Pay Solution</i> |
|---|--|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|---------|---------|--------------|-------------|---------------|
| including business rules, logic, data and interface considerations for data migration, and modernization of interfaces. Conducted a Technology Demonstration of a proposed system architecture for the FPPS. | | | | | |
| Title: Future Pay and Personnel Solution | 2.387 | - | - | - | - |
| Articles: | 0 | | | | |
| FY 2010 Accomplishments: Risk Reduction Phase: Conducted analysis of the software maturity and capabilities provided in the DIMHRS core software baseline. Conducted legacy system analysis for NES, OPINS, IMAPMIS, RHS, NPDB and NSIPS, including business rules, logic, data and interface considerations for data migration, and modernization of interfaces. Conducted a Technology Demonstration of a proposed system architecture for the FPPS. | | | | | |
| Accomplishments/Planned Programs Subtotals | 12.782 | - | - | - | - |

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012 Base</u> | <u>FY 2012 OCO</u> | <u>FY 2012 Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To Complete</u> | <u>Total Cost</u> |
|--|----------------|----------------|---------------------|--------------------|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| • 0808712N/OPN/8106: <i>OPN Procurement</i> | 0.000 | 0.983 | 1.911 | 0.000 | 1.911 | 1.963 | 4.892 | 4.883 | 1.955 | 0.000 | 16.587 |
| • 0808712N/OMN/4A4M: <i>Enter Other Funding Description.</i> | 0.000 | 11.730 | 18.038 | 0.000 | 18.038 | 31.583 | 27.698 | 31.719 | 31.781 | 0.000 | 152.549 |

D. Acquisition Strategy

The Navy will begin the transition to a Future Personnel and Pay Solution (FPPS) in FY 2012. The requirements analysis and the Navy unique capabilities will be designed and implemented into the DIHMRS core to the extent practical. Remaining Navy unique functionality will be designed into current systems to the maximum extent possible. New capability will be procured via open market methods.

E. Performance Metrics

1. Demonstrate the feasibility of at least one technical architecture approach for FPPS.
2. Provide validated requirements for an integrated Navy pay/personnel system.
3. Reduction in the number of redundant transactional systems for personnel and pay.
4. Documented plan and preliminary design for the consolidation of legacy personnel systems.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | R-1 ITEM NOMENCLATURE | PROJECT |
|---|--|---|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | PE 0605013N: <i>Information Technology Development</i> | 3034.: <i>Future Personnel and Pay Solution</i> |

Meet program and systems engineering and technical review milestones for deployment of a Navy Future Pay and Personnel System, with no outstanding severity 1-3 defects for production release. Phase out at least four redundant personnel and pay data marts to one departmental data store. Phase out at least three redundant transactional systems for personnel and pay.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 3167: <i>Joint Technical Data Integration (JTDI)</i> |
|---|--|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 3167: <i>Joint Technical Data Integration (JTDI)</i> | 1.417 | 1.883 | 4.328 | - | 4.328 | 5.431 | 5.051 | 4.958 | 4.649 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

Note

MALSP II EPUK is a new start beginning in FY12.

A. Mission Description and Budget Item Justification

JTDI Program - Funding supports the evaluation, testing and integration to develop a JTDI Commercial off-the-shelf solution for installation on Carrier and Amphibious Assault class ships and up to 104 Navy/Marine Corp aviation activities. JTDI is a digital technical data access, delivery and local O&I level library management toolset and telemaintenance collaboration process enabler. It improves accuracy and timeliness of technical manual and other technical data delivery and minimizes the Fleet's library management burden. JTDI reduces maintenance work hours with a savings Return on Investment of 2.5:1. It facilitates the transition of the Joint Distance Support and Response Advanced Concept Technology Demonstration for telemaintenance and provides for process efficiencies to support ongoing Aviation Fleet Technical Representative reductions.

PEMA: Funding supports the evaluation, testing and integration to develop Portable Electronic Maintenance Aids (PEMA) COTS solution for portable device deployments across the Naval Aviation Enterprise (NAE). PEMA is a portable device utilized by maintainers with the implementation of digital maintenance capabilities (digital publications, Interactive Electronic Technical Manuals, Internet Protocol (IP) based data uploads, Binary digiT (BIT) data downloads, automated diagnostics, and planeside NALCOMIS). PEMAs are a mandatory display device supporting modern day Automated Maintenance Environment implemented for weapon systems.

Marine Aviation Logistics Support Program (MALSP) II Expeditionary Pack up Kit (EPUK): Funding supports the evaluation, development, testing and integration of software and hardware solutions for expeditionary requisitioning and supply chain management across all US Marine Corp Aviation activities. Marine Aviation Logistics is changing to MALSP II to meet current and future operational requirements - in support of the NAE Strategic Plan, Marine Corps Vision & Strategy 2025, and the USMC Long War Concept. MALSP II will allow aviation logisticians to decrease total infrastructure and resource inventories forward by moving the preponderance of the Maintenance and Supply workload to the CONUS Parent MALS, and reducing the total forward Aviation Logistics footprint (personnel, equipment, facilities and spares). EPUK, as part of Marine Aviation Logistics-Enterprise IT system, is an automated wireless hardware / software solution that is a key enabler in integrating US Marine Corp Aviation Combat Element and Logistics Combat Element logistics systems to make the Marine Air Ground Task Force more responsive, agile, flexible and lethal with the ability to support and sustain operations in austere expeditionary environments and across the Range of Military Operations.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--------------------|---------|---------|--------------|-------------|---------------|
| Title: JTDI | 0.943 | 1.437 | 1.535 | - | 1.535 |
| Articles: | 0 | 0 | 0 | | 0 |

UNCLASSIFIED

UNCLASSIFIED

| | | | | | | |
|---|--|--|----------------------------|---------------------|--------------------|----------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | | DATE: February 2011 | | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 3167: <i>Joint Technical Data Integration (JTDI)</i> | | | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | | | | | |
| | | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
| <i>FY 2010 Accomplishments:</i> Conducted development efforts associated with a major release of fully deployed COTS intensive JTDI system. Conducted COTS requirements definition, evaluation, integration, and testing of annual baseline releases. Conducted technology insertion of the JTDI system. | | | | | | |
| <i>FY 2011 Plans:</i> Conduct development efforts associated with a major release of fully deployed COTS intensive JTDI system. Conduct COTS requirements definition, evaluation, integration, and testing of annual baseline releases. Conduct technology insertion of the JTDI system. | | | | | | |
| <i>FY 2012 Base Plans:</i> Conduct development efforts associated with a major release of fully deployed COTS intensive JTDI system. Conduct COTS requirements definition, evaluation, integration, and testing of annual baseline releases. Conduct technology insertion of the JTDI system. | | | | | | |
| <i>Title:</i> PEMA | <i>Articles:</i> | 0.474 0 | 0.446 0 | - | - | - |
| <i>FY 2010 Accomplishments:</i> Evaluated, tested and integrated evolving COTS solutions. Conducted test & evaluation of Type/Model/Series (T/M/S) peculiar software/hardware requirements and network connectivity compliance across the Global Information Grid (GIG) prior to deployment to the fleet by a yearly release cycle. | | | | | | |
| <i>FY 2011 Plans:</i> Evaluate, test and integrate evolving COTS solutions. Conduct test & evaluation of T/M/S peculiar software/hardware requirements and network connectivity compliance across the GIG prior to deployment to the fleet by a yearly release cycle. | | | | | | |
| <i>Title:</i> MALSP II EPUK | <i>Articles:</i> | - | - | 2.793 0 | - | 2.793 0 |
| <i>FY 2012 Base Plans:</i> Conduct development efforts with a major release of EPUK. Conduct requirements definition, evaluation, integration, and testing of planned software capabilities. Conduct test and evaluation of hardware requirements | | | | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 3167: <i>Joint Technical Data Integration (JTDI)</i> |
|---|--|--|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|---------|---------|--------------|-------------|---------------|
| and network connectivity via satellite communication prior to deployment to the fleet based on a yearly release/maintenance cycle. | | | | | |
| Accomplishments/Planned Programs Subtotals | 1.417 | 1.883 | 4.328 | - | 4.328 |

C. Other Program Funding Summary (\$ in Millions)

| Line Item | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| • OPN, 4265: <i>Other Aviation Support Equipment</i> | 5.541 | 1.134 | 3.657 | 18.226 | 21.883 | 4.478 | 1.706 | 1.927 | 1.741 | Continuing | Continuing |
| • OPN, 4264: <i>Portable Electronic Maint Aids</i> | 4.895 | 12.812 | 7.875 | 0.000 | 7.875 | 8.075 | 5.676 | 4.392 | 4.472 | Continuing | Continuing |

D. Acquisition Strategy

JTDI Program - The management approach includes the Program Management Office residing in the Naval Air Systems Command (NAVAIR) with Milestone Decision Authority (MDA) delegated to the NAVAIR Command Information Officer (CIO). The evolutionary development approach will be used to execute requirements. Contracting for the prime integrator will be via competitively awarded Indefinite Delivery - Indefinite Quantity (IDIQ) contracts.

PEMA Program - The management approach includes the Program Management Office residing in the NAVAIR with MDA delegated to the NAVAIR CIO. The evolutionary development approach will be used to execute requirements. Contracting for the prime integrator will be via competitively awarded IDIQ contracts.

MALSP II EPUK Program - The management approach includes the Program Management Office residing in the NAVAIR with MDA delegated to the NAVAIR CIO. The evolutionary development approach will be used to execute requirements. Contracting for the prime integrator will be via competitively awarded IDIQ contracts.

E. Performance Metrics

JTDI & PEMA and MALSP II EPUK Program - Successfully achieve government testing of annual software release.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 3167: <i>Joint Technical Data Integration (JTDI)</i> |
|---|--|--|

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|-------------------------------------|------------------------|--|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Software Development | C/FFP | ARANEA:Huntsville, AL | 1.386 | 1.321 | Nov 2010 | 1.534 | Nov 2011 | - | | 1.534 | 0.000 | 4.241 | 4.241 |
| Software Development | C/FFP | Various:Various | 3.958 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Software Development/HW Integration | C/CPFF | Spalding Consulting:Lexington Park, MD | - | - | | 2.206 | Nov 2011 | - | | 2.206 | Continuing | Continuing | Continuing |
| Engineering Tech. Sppt | TBD | TBD:TBD | - | 0.055 | Feb 2011 | - | | - | | - | 0.000 | 0.055 | |
| Subtotal | | | 5.344 | 1.376 | | 3.740 | | - | | 3.740 | | | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Developmental Test & Evaluation | C/FFP | Various:Various | 0.474 | - | | 0.182 | Nov 2011 | - | | 0.182 | Continuing | Continuing | Continuing |
| Operational Test & Evaluation | WR | NAWCAD:Patuxent River, MD | - | 0.446 | Nov 2010 | - | | - | | - | 0.000 | 0.446 | 0.446 |
| Subtotal | | | 0.474 | 0.446 | | 0.182 | | - | | 0.182 | | | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Program Management Support | WR | NAWCAD:Patuxent River, MD | 0.133 | 0.031 | Nov 2010 | 0.231 | Oct 2011 | - | | 0.231 | 0.000 | 0.395 | |
| Program Management Support | WR | DTIC:Fort Belvoir, VA | 0.010 | - | | - | | - | | - | 0.000 | 0.010 | |
| Contractor Engineering Support | C/FFP | NAWCAD:Patuxent River, MD | - | - | | 0.175 | Nov 2011 | - | | 0.175 | Continuing | Continuing | Continuing |
| Travel | Various | Various:Various | - | 0.015 | Feb 2011 | - | | - | | - | 0.000 | 0.015 | |
| Program Management Support | WR | DCATS:Fort Monmouth, VA | - | 0.015 | Jan 2011 | - | | - | | - | 0.000 | 0.015 | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 3167: <i>Joint Technical Data Integration (JTDI)</i> |
|---|--|--|

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|----------------|------------|---------------------|------------|--------------------|------------|----------------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Subtotal | | | 0.143 | 0.061 | | 0.406 | | - | | 0.406 | | | |
| Project Cost Totals | | | 5.961 | 1.883 | | 4.328 | | - | | 4.328 | | | |

Remarks

Contractor Engineering Support increase in FY11 due to program reprioritization. Program Management Support decreased in FY11 due to program reprioritization.

Contractor Engineering Support increase in FY12 due to program reprioritization/PEMA realignment. Program Management Support decreased in FY12 due to program reprioritization/PEMA realignment. Operational Test & Evaluation decrease in FY12 due to PEMA realignment.

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

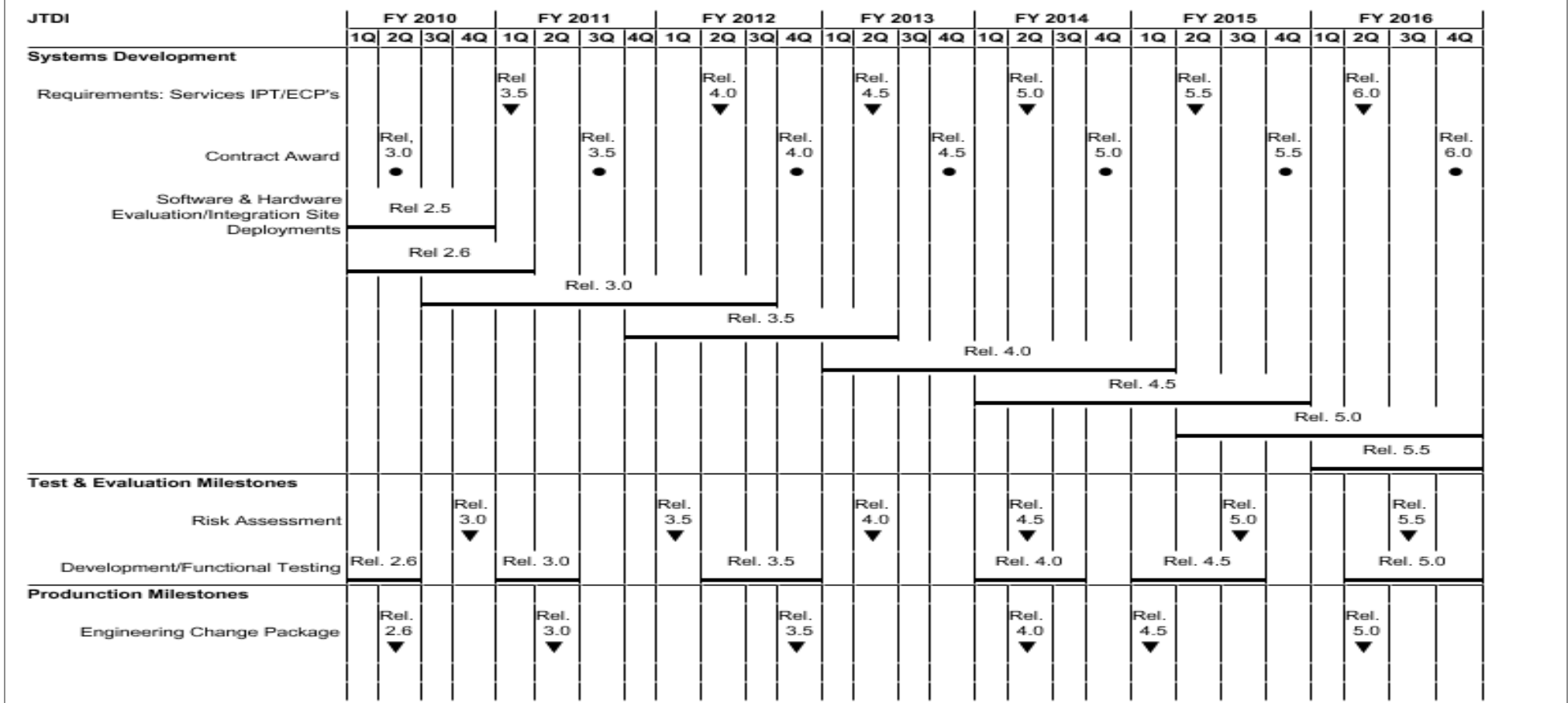
1319: Research, Development, Test & Evaluation, Navy
BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

PE 0605013N: Information Technology
Development

PROJECT

3167: Joint Technical Data Integration (JTDI)



2012PB - 0605013N - 3167

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0605013N: *Information Technology Development*

PROJECT

3167: *Joint Technical Data Integration (JTDI)*

| PEMA | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|--|---------|---------|----------------------|------------------|---------|---------|----------------------|------------------|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q |
| Systems Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contract Award | ● | | | | ● | | | | | | | | | | | | | | | | | | | | | | | |
| Requirements | | Study 1 | | | | Study 2 | | | | | | | | | | | | | | | | | | | | | | |
| Engineering Change Proposal By T/M/S | | | ▼ ECP 1 | | | | ▼ ECP 2 | | | | | | | | | | | | | | | | | | | | | |
| Image Development By T/M/S | | | Image Devel. 1 | | | | Image Devel. 2 | | | | | | | | | | | | | | | | | | | | | |
| Test and Evaluation Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Functional Regression Testing | | | | F/R Test 1 | | | | F/R Test 2 | | | | | | | | | | | | | | | | | | | | |
| Independent Validation & Verifications | | | | V/V Test 1 | | | | V/V Test 2 | | | | | | | | | | | | | | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | ▼ Rel 1 | | | | ▼ Rel 2 | | | | | | | | | | | | | | | | | | | | |

2012PB - 0605013N - 3167

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0605013N: *Information Technology Development*

PROJECT

3167: *Joint Technical Data Integration (JTDI)*

| MALSP II EPUK | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | | | | | |
|------------------------------|---------|----|----|----|---------|----|----|----------|---------|----|----|----|----------|----|----|---------|---------|----|----|----|----------|----|----|-------------|---------|----|----|----|-------------|--|--|--|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | | | | |
| Acquisition Milestone | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Prototyping | | | | | | | | EPUK 2-1 | | | | | | | | PUK 2-2 | | | | | | | | MAL-EIT 1.0 | | | | | | | | |
| Contract Award | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ● | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ● | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Systems Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Software Development | | | | | | | | | | | | | EPUK 2-1 | | | | | | | | EPUK 2-2 | | | | | | | | MAL-EIT 1.0 | | | |
| Test & Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PDR Review | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ■ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CDR Review | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ■ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Technical Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ■ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operation Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ■ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ▼ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ▼ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0605013N - 3167

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 3167: <i>Joint Technical Data Integration (JTDI)</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| JTDI | | | | |
| Systems Development: Requirements: Services IPT/ECP's: Service IPT/ECPs, Release 3.5 | 1 | 2011 | 1 | 2011 |
| Systems Development: Requirements: Services IPT/ECP's: Service IPT/ECPs, Release 4.0 | 2 | 2012 | 2 | 2012 |
| Systems Development: Requirements: Services IPT/ECP's: Service IPT/ECPs, Release 4.5 | 2 | 2013 | 2 | 2013 |
| Systems Development: Requirements: Services IPT/ECP's: Service IPT/ECPs, Release 5.0 | 2 | 2014 | 2 | 2014 |
| Systems Development: Requirements: Services IPT/ECP's: Service IPT/ECPs, Release 5.5 | 2 | 2015 | 2 | 2015 |
| Systems Development: Requirements: Services IPT/ECP's: Service IPT/ECPs, Release 6.0 | 2 | 2016 | 2 | 2016 |
| Systems Development: Contract Award: Contract Award, Release 3.0 | 2 | 2010 | 2 | 2010 |
| Systems Development: Contract Award: Contract Award, Release 3.5 | 3 | 2011 | 3 | 2011 |
| Systems Development: Contract Award: Contract Award, Release 4.0 | 4 | 2012 | 4 | 2012 |
| Systems Development: Contract Award: Contract Award, Release 4.5 | 4 | 2013 | 4 | 2013 |
| Systems Development: Contract Award: Contract Award, Release 5.0 | 4 | 2014 | 4 | 2014 |
| Systems Development: Contract Award: Contract Award, Release 5.5 | 4 | 2015 | 4 | 2015 |
| Systems Development: Contract Award: Contract Award, Release 6.0 | 4 | 2016 | 4 | 2016 |
| Systems Development: Software & Hardware Evaluation/Integration Site Deployments: Software Hardware Int, Release 2.5 | 1 | 2010 | 4 | 2010 |
| Systems Development: Software & Hardware Evaluation/Integration Site Deployments: Software Hardware Int, Release 2.6 | 1 | 2010 | 1 | 2011 |

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 3167: <i>Joint Technical Data Integration (JTDI)</i> |

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Systems Development: Software & Hardware Evaluation/Integration Site Deployments: Software Hardware Int, Release 3.0 | 3 | 2010 | 3 | 2012 |
| Systems Development: Software & Hardware Evaluation/Integration Site Deployments: Software Hardware Int, Release 3.5 | 4 | 2011 | 2 | 2013 |
| Systems Development: Software & Hardware Evaluation/Integration Site Deployments: Software Hardware Int, Release 4.0 | 1 | 2013 | 1 | 2015 |
| Systems Development: Software & Hardware Evaluation/Integration Site Deployments: Software Hardware Int, Release 4.5 | 1 | 2014 | 4 | 2015 |
| Systems Development: Software & Hardware Evaluation/Integration Site Deployments: Software Hardware Int, Release 5.0 | 2 | 2015 | 4 | 2016 |
| Systems Development: Software & Hardware Evaluation/Integration Site Deployments: Software Hardware Int, Release 5.5 | 1 | 2016 | 4 | 2016 |
| Test & Evaluation Milestones: Risk Assessment: Risk Assessment, Release 3.0 | 4 | 2010 | 4 | 2010 |
| Test & Evaluation Milestones: Risk Assessment: Risk Assessment, Release 3.5 | 1 | 2012 | 1 | 2012 |
| Test & Evaluation Milestones: Risk Assessment: Risk Assessment, Release 4.0 | 2 | 2013 | 2 | 2013 |
| Test & Evaluation Milestones: Risk Assessment: Risk Assessment, Release 4.5 | 2 | 2014 | 2 | 2014 |
| Test & Evaluation Milestones: Risk Assessment: Risk Assessment, Release 5.0 | 3 | 2015 | 3 | 2015 |
| Test & Evaluation Milestones: Risk Assessment: Risk Assessment, Release 5.5 | 3 | 2016 | 3 | 2016 |
| Test & Evaluation Milestones: Development/Functional Testing: Development/Functional Testing, Release 2.6 | 1 | 2010 | 2 | 2010 |
| Test & Evaluation Milestones: Development/Functional Testing: Development/Functional Testing, Release 3.0 | 1 | 2011 | 2 | 2011 |
| Test & Evaluation Milestones: Development/Functional Testing: Development/Functional Testing, Release 3.5 | 2 | 2012 | 4 | 2012 |
| Test & Evaluation Milestones: Development/Functional Testing: Development/Functional Testing, Release 4.0 | 1 | 2014 | 3 | 2014 |

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 3167: <i>Joint Technical Data Integration (JTDI)</i> |

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Test & Evaluation Milestones: Development/Functional Testing: Development/Functional Testing, Release 4.5 | 1 | 2015 | 3 | 2015 |
| Test & Evaluation Milestones: Development/Functional Testing: Development/Functional Testing, Release 5.0 | 2 | 2016 | 4 | 2016 |
| Production Milestones: Engineering Change Package: Engineering Change Package, Release 2.6 | 2 | 2010 | 2 | 2010 |
| Production Milestones: Engineering Change Package: Engineering Change Package, Release 3.0 | 2 | 2011 | 2 | 2011 |
| Production Milestones: Engineering Change Package: Engineering Change Package, Release 3.5 | 4 | 2012 | 4 | 2012 |
| Production Milestones: Engineering Change Package: Engineering Change Package, Release 4.0 | 2 | 2014 | 2 | 2014 |
| Production Milestones: Engineering Change Package: Engineering Change Package, Release 4.5 | 1 | 2015 | 1 | 2015 |
| Production Milestones: Engineering Change Package: Engineering Change Package, Release 5.0 | 2 | 2016 | 2 | 2016 |
| PEMA | | | | |
| Systems Development: Contract Award: PEMA - Contract Award (1) | 1 | 2010 | 1 | 2010 |
| Systems Development: Contract Award: PEMA - Contract Award (2) | 1 | 2011 | 1 | 2011 |
| Systems Development: Requirements: Requirements Study (1) | 2 | 2010 | 2 | 2010 |
| Systems Development: Requirements: Requirements Study (2) | 2 | 2011 | 2 | 2011 |
| Systems Development: Engineering Change Proposal By T/M/S: Engineering Change Proposal By T/M/S ECP 1 | 3 | 2010 | 3 | 2010 |
| Systems Development: Engineering Change Proposal By T/M/S: Engineering Change Proposal By T/M/S ECP 2 | 3 | 2011 | 3 | 2011 |
| Systems Development: Image Development By T/M/S: Image Development By T/M/S (1) | 3 | 2010 | 3 | 2010 |

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 3167: <i>Joint Technical Data Integration (JTDI)</i> |

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Systems Development: Image Development By T/M/S: Image Development By T/M/S (2) | 3 | 2011 | 3 | 2011 |
| Test and Evaluation Milestones: Functional Regression Testing: Functional/Regression Testing (1) | 4 | 2010 | 4 | 2010 |
| Test and Evaluation Milestones: Functional Regression Testing: Functional/Regression Testing (2) | 4 | 2011 | 4 | 2011 |
| Test and Evaluation Milestones: Independent Validation & Verifications: Independent Validation & Verification Testing (1) | 4 | 2010 | 4 | 2010 |
| Test and Evaluation Milestones: Independent Validation & Verifications: Independent Validation & Verification Testing (2) | 4 | 2011 | 4 | 2011 |
| Deliveries: Delivery, Release 1 | 4 | 2010 | 4 | 2010 |
| Deliveries: Delivery, Release 2 | 4 | 2011 | 4 | 2011 |
| MALSP II EPUK | | | | |
| Acquisition Milestone: Prototyping: EPUK 2-1 Prototyping | 1 | 2012 | 2 | 2013 |
| Acquisition Milestone: Prototyping: EPUK 2-2 Prototyping | 1 | 2014 | 4 | 2014 |
| Acquisition Milestone: Prototyping: MAL-EIT 1.0 Prototyping | 2 | 2015 | 1 | 2016 |
| Acquisition Milestone: Contract Award: EPUK Contract Award | 1 | 2012 | 1 | 2012 |
| Acquisition Milestone: Contract Award: MAL-EIT Contract Award | 1 | 2015 | 1 | 2015 |
| Systems Development: Software Development: EPUK 2-1 Software Development | 3 | 2013 | 2 | 2014 |
| Systems Development: Software Development: EPUK 2-2 Software Development | 4 | 2014 | 3 | 2015 |
| Systems Development: Software Development: MAL-EIT 1.0 Software Development | 1 | 2016 | 4 | 2016 |
| Test & Evaluation: PDR Review: EPUK 2-1 PDR | 4 | 2013 | 4 | 2013 |
| Test & Evaluation: PDR Review: EPUK 2-2 PDR | 1 | 2015 | 1 | 2015 |
| Test & Evaluation: PDR Review: MAL-EIT 1.0 PDR | 2 | 2016 | 2 | 2016 |
| Test & Evaluation: CDR Review: EPUK 2-1 CDR | 2 | 2014 | 2 | 2014 |

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 3167: <i>Joint Technical Data Integration (JTDI)</i> |

| Events by Sub Project | Start | | End | |
|--|----------------|-------------|----------------|-------------|
| | Quarter | Year | Quarter | Year |
| Test & Evaluation: CDR Review: EPUK 2-2 CDR | 3 | 2015 | 3 | 2015 |
| Test & Evaluation: CDR Review: MAL-EIT 1.0 CDR | 4 | 2016 | 4 | 2016 |
| Test & Evaluation: Technical Evaluation: EPUK 2-1 DT&E/OT&E | 4 | 2013 | 2 | 2014 |
| Test & Evaluation: Technical Evaluation: EPUK 2-2 DT&E/OT&E | 1 | 2015 | 3 | 2015 |
| Test & Evaluation: Technical Evaluation: MAL-EIT 1.0 DT&E/OT&E | 2 | 2016 | 4 | 2016 |
| Test & Evaluation: Operation Evaluation: EPUK 2-1 IOT&E | 3 | 2014 | 3 | 2014 |
| Test & Evaluation: Operation Evaluation: EPUK 2-2 IOT&E | 4 | 2015 | 4 | 2015 |
| Deliveries: EPUK 2-1 Delivery | 1 | 2015 | 1 | 2015 |
| Deliveries: EPUK 2-2 Delivery | 2 | 2016 | 2 | 2016 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 3185.: <i>Joint Airlift Information System (JALIS)</i> |
|---|--|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 3185.: <i>Joint Airlift Information System (JALIS)</i> | 0.415 | 0.373 | 0.419 | - | 0.419 | 0.419 | 0.412 | 0.421 | 0.428 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

Note

FMB has made all BSO's budget for FY11 match PB11 values. Thus, RESFOR artificially shows the FY2011 Estimate value for the JALIS program per our PB11 submission. The FY11 JALIS functional transfer to SPAWAR under issue 60297, which happened after PB11 submit, is not reflected for the purposes of the PB12 budget submission. Stated another way, RESFOR does not receive RDTE funding for the JALIS program in FY11, this funding was transferred to SPAWAR.

A. Mission Description and Budget Item Justification

Joint Airlift Information System (JALIS) is a multipurpose on-demand automated scheduling program for Operational Support Aircraft (OSA) and Navy Unique Fleet Essential Aircraft (NUFEA). The JALIS application allows DoD Service personnel the ability to request airlift support and retrieve status information about the movement of DoD personnel and cargo. JALIS provides the airlift schedulers with a decision-support tool to develop efficient flight schedules based on the priority of requests and the availability of aircraft assets. It also provides the aircraft operators with an on-line tool to communicate the latest aircraft status, retrieve flight assignments, and enter post-mission reporting data. The DoD Directive 5400.43E mandates JALIS as the official DoD airlift scheduling system, which meets the requirement for multi-service coordinated air logistics scheduling as directed by the Chairman, Joint Chiefs of Staff. The United States Navy is designated as the lead agency for sponsoring and funding the JALIS program.

FY12 Research, Development, Test, & Evaluation funding will be used to support JALIS development modernizations necessary to partially meet the requirements identified by the DEPSECDEF, requiring United States Transportation Command (USTRANSCOM) to provide global visibility of all Commercial Variant Aircraft (CVA) and Operational Support Airlift (OSA) aircraft world wide.

JALIS: This system provides an airlift data collection and analysis system for the purpose of airlift and aircraft management. JALIS supports the objectives and strategies presented in the DoD Transportation Corporate Information Management (CIM) Strategic Plan and Enterprise Integration (EI) Implementation Strategy as directed for DoD transportation management responsibilities in the USTRANSCOM Joint transportation CIM Center (JTCC) Abbreviated Integration Decision Paper (IDP) for the JALIS. Current RDT&E funding supports improvements to the current JALIS application and database by continuing to implement approved Joint Configuration Control Board enhancements, complying with DoD security requirements and mandates, and upgrading the application to utilize vender supported development software tools.

Reduction in line item for FY10: \$13,000 was a result of the Small Business Innovation Research (SBIR) adjustments.

Reduction in line items for FY11 through FY16: Zeroing out funding for these years as the JALIS program will transfer to SPAWAR (BSO 39) in FY11 and out.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 3185.: <i>Joint Airlift Information System (JALIS)</i> |
|---|--|--|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|------------|------------|--------------|-------------|---------------|
| <p>Title: Joint Airlift Information System (JALIS)</p> <p align="right">Articles:</p> <p>FY 2012 Base Plans: Develop additional system capabilities to increase its usability, data accuracy, metrics reporting, and a more robust dashboard tool. Conduct research and development of an interface with USTRANSCOM's program, Global Decision Support System 2 (GDSS2), and complete the modernization.</p> | - | - | 0.419 0 | - | 0.419 0 |
| <p>Title: New Accomplishment/Planned Program Entry</p> <p align="right">Articles:</p> <p>FY 2010 Accomplishments:</p> <ul style="list-style-type: none"> - Conducted an extensive investigation of JALIS-NG - Prepared and Presented facts found in investigation to ASN-RDA in an official Gate 5 review - Developed an RFI; received and reviewed 6 inputs - Went through extensive research of multiple COTS/Vendor products/demos - Coordinated and organized 2 major stakeholder meetings to gather and create the Functional Requirements Document - Completed the FRD and received final Stake holder approval. - Conducted 2 fact finding trips to TRANSCOM to meet with major players and review future requirements. - Created the ESC Charter; filling positions now. - Created the CCB Charter; filling positions now. - Created and Completed a fully documented AoA - Briefed CMMS status to SLAWG, SLASG and ASN-RDA on numerous occasions. - Completed Time lines and Cost Estimating for 3 possible futures paths of CMMS. - Preparing for new Gate 5 review - Waiting for additional funding to proceed. <p>FY 2011 Plans: Develop additional system capabilities to increase its usability, data accuracy, metrics reporting, and a more robust dashboard tool. Conduct research and development of an interface with USTRANSCOM's program, Global Decision Support System 2 (GDSS2), and complete the modernization. The JALIS program transferred to SPAWAR in FY11.</p> | 0.415 0 | 0.373 0 | - | - | - |
| Accomplishments/Planned Programs Subtotals | 0.415 | 0.373 | 0.419 | - | 0.419 |

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 3185.: <i>Joint Airlift Information System (JALIS)</i> |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

FY12 contract activities will focus on developing the following capabilities:

1. Provide executive management with a more centralized view of OSA aircraft and missions.
2. Establish navigation and design more intuitive displays to increase efficiencies and streamline the training of new users.
3. Provide USTRANSCOM global visibility of OSA assets and maximize aircraft utilization by increasing the efficiency of inter-service scheduling of DoD passengers and cargo worldwide.

Systems Center Atlantic to provide. Contracts have been awarded throughout FY10 in support of the following areas:

1. Assign PEO-EIS contractors for acquisition management and oversight of further related work under formal acquisition leadership.
2. Continue to operate and support the current JALIS system which is fully funded and in sustainment today.
3. Perform a detailed requirements review and revalidation with stakeholders to achieve approval of the program baseline by OPNAV N88.
4. Develop viable program alternatives with associated costs, schedules and required resources.
5. Generate an RFI immediately to assess viability of a cost-wise COTS alternative that could meet operational, technical and security requirements.
6. Investigate the potential for pursuing this requirement as a Rapid Acquisition Program.

E. Performance Metrics

Performance metrics for JALIS include:

1. Increase aircraft utilization by 30%
2. Increase the efficiency of modifying aircraft status by 60%
3. Decrease training requirements for Schedulers by 20%
4. Increase the accuracy of flown flight time data by 90%

Performance metrics for the JALIS program:

1. Increase aircraft utilization to a sustained efficiency of 90%
2. Increase objectivity in assigning Priority Justification Codes to a sustained efficiency of 85%
3. Increase and sustain aircraft workload efficiency at 90%
4. Achieve real-time aircraft status visibility
5. Increase the efficiency of modifying aircraft status by 80%
6. Eliminate training requirements for Requesters
7. Increase mission creation efficiency by an average of 20%
8. Enhance input, validation, and verification of airlift requests efficiency by 50%
9. Improve the accurate data collection time for post mission data by 65%
10. Enhance overall reporting and metrics collection

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 9406: <i>Maintenance Data Warehouse</i> |
|---|--|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 9406: <i>Maintenance Data Warehouse</i> | - | - | 5.167 | - | 5.167 | 2.484 | 2.485 | 2.536 | 2.566 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

Note

Maintenance Data Warehouse is a new start beginning in FY12.

A. Mission Description and Budget Item Justification

Maintenance Data Warehouse/NAVAIR DECKPLATE - The development of the Decision Knowledge Programming for Logistics Analysis and Technical Evaluation (DECKPLATE) program is the next generation data warehouse for aircraft maintenance, flight, and usage data. It provides a web-based interface to a single source of information currently being stored in multiple Naval Aviation Logistics Data Analysis (NALDA) systems. Through the use of analysis, query, and reporting tools the user has the capabilities to effectively obtain readiness data in a near real-time environment, as well as historical data for trend analysis and records reconstruction. DECKPLATE supports the mission of the warfighter who requires a single source of near real-time aviation data in which to base critical readiness decisions. This requires collecting data from authoritative sources into a data warehouse. Because the warfighter only needs to access one database, the time consuming task of collecting various pieces of data from various sources will be reduced and ultimately eliminated. This improves data quality because it reduces the possibility of two systems providing identical data elements, but slightly different data. Data availability is improved through continuous near real-time feeds from the data sources, giving the warfighter the most current information to base decisions. In addition, this also accomplishes a reduction in legacy systems mandated by OPNAV.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|--|---------|---------|--------------|-------------|---------------|
| Title: Maintenance Data Warehouse/NAVAIR DECKPLATE | - | - | 5.167 | - | 5.167 |
| Articles: | | | 0 | | 0 |
| FY 2012 Base Plans: Begin transition of Aircraft Inventory Readiness and Reporting System (AIRRS) and Logistics Management Decision Support System (LMDSS) functionality into DECKPLATE. | | | | | |
| Accomplishments/Planned Programs Subtotals | - | - | 5.167 | - | 5.167 |

UNCLASSIFIED

| | |
|--|----------------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | DATE: February 2011 |
|--|----------------------------|

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 9406: <i>Maintenance Data Warehouse</i> |
|---|--|---|

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> <u>Base</u> | <u>FY 2012</u> <u>OCO</u> | <u>FY 2012</u> <u>Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
|--|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| • OPN, 4265: <i>Other Aviation Support Equipment</i> | 2.246 | 2.766 | 0.445 | 0.000 | 0.445 | 0.494 | 2.875 | 2.927 | 2.957 | Continuing | Continuing |

D. Acquisition Strategy

Maintenance Data Warehouse/NAVAIR DECKPLATE - RDT&E funding to begin in FY12. Development services will be awarded using a competitively awarded contract under the Seaport Contract System containing a matrix of tasks and required levels of performance. Follow on Contract will utilize the same competitive system. The Services provided under the contract support acquisition will not encompass tasks inherently Governmental in nature. The Statement of Work will include a matrix that establishes the minimum acceptable performance standards.

E. Performance Metrics

Maintenance Data Warehouse/NAVAIR DECKPLATE

1. Metric - During the life of the contract verify conformance with agency specific information processing standards and functional requirements. Prior to delivery of enhanced software, demonstrate the operational capability of the system software. Standard - Functionality of the software to meet required systems architecture and processing capabilities. Max Deviation Allowed - All requirements mandated by law or regulation must be 100% compliant. Quality Assurance - IV&V for testing new releases of software to determine that previous functionality is maintained. Customer satisfaction as measured through limited validated customer complaints, feedback, and surveys.
2. Metric - Interfaces must maintain compatibility among system components in the operational environment. Standard - Service Levels for software: Throughput in terms of processing response time, number of transactions processed per second; volume of data processed over time. Compatibility with particular hardware and software within the existing processing environment. Functionality of software to meet required systems architecture and processing capabilities. Max Deviation Allowed - None. Quality Assurance - Customer satisfaction as measured through limited validated customer complaints, feedback and surveys. Operational monitoring by use of system statistics and logs. IV&V for testing new software, including verifying results to determine that requirements and specifications are met.
3. Metric - Documentation for deliverables must match the agency specific system processing and operational procedures. Standard - Documentation meets agency specific formats for accuracy and completeness. Max Deviation Allowed - None. Quality Assurance - IV&V for determining that documentation delivered by the contractor matches the system processing and operational procedures.
4. Metric - Meet delivery dates/milestones. Period of Performance will be 12 months from the date of award. Standard - Delivery dates are met, or exceeded. Max Deviation Allowed - None. Quality Assurance - 100% inspection.
5. Metric - Security. Standard - Meet all Government and agency specific requirements. Max Deviation Allowed - None. Quality Assurance - 100% inspection to ensure that all Government and Agency specific requirements have been met. Independent verification of security procedures defined by agency (could be performed by a third party, or another agency according to current security regulations and measures).
6. Metric - Enhancement to software shall not adversely affect system performance. Standard - Standards affecting system performance include but are not limited to: response time for resolving problems; CPU busy; response time; memory utilization; storage utilization. Max Deviation Allowed - Base line functionality is met at 100%. Non critical functionality is met at 95%. Quality Assurance - Operational monitoring by use of system statistics and logs.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | R-1 ITEM NOMENCLATURE | PROJECT |
|---|--|---|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | PE 0605013N: <i>Information Technology Development</i> | 9406: <i>Maintenance Data Warehouse</i> |

7. Metric - New releases of software must maintain previously provided functionality, while providing enhanced capabilities, or systems corrections. Standard - Software adds value and improves existing functionality without negatively impacting the existing operational environment. Max Deviation Allowed - Base line functionality is met at 100%. Non critical functionality is met at 95%. Quality Assurance - IV&V for testing new releases of software to determine that previous functionality is improved. Customer satisfaction is measured through validated customer complaints and surveys.

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0605013N: *Information Technology Development*

PROJECT

9406: *Maintenance Data Warehouse*

| DECKPLATE Maint Data Warehouse Auto Log Set (ALS) | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | | | | | | | | | | |
|--|---------|----|----|----|---------|----|----|----|---------|----|----|----|-----------------------------|---------------------|----|----|---------|----|------------------------------|----|------------------------------|----|----|----|------------------------|----|----|----|--|--|--|--|--|--|--|--|--|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | | | | | | | | | |
| Systems Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Software Development | | | | | | | | | | | | | ALS Contract Award OY4 ● | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | ALS Reqmts OY4 | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | ALS Design Arch OY4 | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | ALS SW Dev OY4 | | | | | ALS Contract Award Base ● | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | ALS SW Dev Base | | | | | | | | | | | | | | | | | | |
| Test & Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | ALS IV&V Testing Base ▼ | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | ALS Cust Accept Testing Base | | | | | | | | | | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | ALS Delivery Base ▼ | | | | | | | | | | | | |

2012PB - 0605013N - 9406

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 9406: <i>Maintenance Data Warehouse</i> |
|---|--|---|

| DECKPLATE Maint Data Warehouse OEM/DEPOT | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | | | | | | | | | |
|--|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------------------------|----|----|----|------------------------------------|----|----|----|-----------------------------------|----|----|----|-----------------------------------|----|----|----|-----------------------------|--|--|--|--|--|--|--|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | | | | | | | | |
| Systems Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Software Development | | | | | | | | | | | | | | | | | OEM/DEPOT Contract Award Base ● | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | OEM/DEPOT Reqmts Dev Base | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | OEM/DEPOT Design Arch Base | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | OEM/DEPOT SW Dev Base | | | | OEM/DEPOT Contract Award OY1 ● | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | OEM/DEPOT SW Dev OY1 | | | | | | | | | | | | | | | |
| Test & Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | OEM/DEPOT IV&V Testing OY1 ▼ | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | OEM/DEPOT Cust Accept Testing OY1 | | | | | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | OEM/DEPOT Delivery OY1 ▼ | | | | | | | |

2012PB - 0605013N - 9406

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 9406: <i>Maintenance Data Warehouse</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| DECKPLATE Maint Data Warehouse AIRRS/LMDSS | | | | |
| Systems Development: Software Development: Contract Award AIRRS/LMDSS Functionality into DECKPLATE OY3 | 1 | 2012 | 1 | 2012 |
| Systems Development: Software Development: AIRRS/LMDSS Requirements Development OY3 | 1 | 2012 | 4 | 2012 |
| Systems Development: Software Development: AIRRS/LMDSS Design & Schema Architecture OY3 | 3 | 2012 | 4 | 2012 |
| Systems Development: Software Development: AIRRS/LMDSS Software Development OY3 | 4 | 2012 | 4 | 2012 |
| Systems Development: Software Development: Contract Award AIRRS/LMDSS Functionality into DECKPLATE OY4 | 1 | 2013 | 1 | 2013 |
| Systems Development: Software Development: AIRRS/LMDSS Software Development OY4 | 1 | 2013 | 3 | 2013 |
| Test & Evaluation: AIRRS/LMDSS IV&V Testing OY4 | 3 | 2013 | 3 | 2013 |
| Test & Evaluation: AIRRS/LMDSS Customer Acceptance Testing OY4 | 3 | 2013 | 4 | 2013 |
| Deliveries: AIRRS/LMDSS Production Release Delivery OY4 | 4 | 2013 | 4 | 2013 |
| DECKPLATE Maint Data Warehouse Auto Log Set (ALS) | | | | |
| Systems Development: Software Development: Contract Award ALS Functionality & Reporting into Deckplate OY4 | 1 | 2013 | 1 | 2013 |
| Systems Development: Software Development: ALS Requirements Development OY4 | 1 | 2013 | 4 | 2013 |
| Systems Development: Software Development: ALS Design & Schema Architecture OY4 | 3 | 2013 | 4 | 2013 |
| Systems Development: Software Development: ALS Software Development OY4 | 4 | 2013 | 4 | 2013 |
| | 1 | 2014 | 1 | 2014 |

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 9406: <i>Maintenance Data Warehouse</i> |
|---|--|---|

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Systems Development: Software Development: Contract Award ALS Functionality & Reporting into DECKPLATE Base | | | | |
| Systems Development: Software Development: ALS Software Development Base | 1 | 2014 | 3 | 2014 |
| Test & Evaluation: ALS IV&V Testing Base | 3 | 2014 | 3 | 2014 |
| Test & Evaluation: ALS Customer Acceptance Testing Base | 3 | 2014 | 4 | 2014 |
| Deliveries: ALS Production Release Delivery Base | 4 | 2014 | 4 | 2014 |
| DECKPLATE Maint Data Warehouse OEM/DEPOT | | | | |
| Systems Development: Software Development: Contract Award OEM/DEPOT Reporting into Deckplate Base | 1 | 2014 | 1 | 2014 |
| Systems Development: Software Development: OEM/DEPOT Reporting Requirements Development Base | 1 | 2014 | 4 | 2014 |
| Systems Development: Software Development: OEM/DEPOT Design & Schema Architecture Base | 3 | 2014 | 4 | 2014 |
| Systems Development: Software Development: OEM/DEPOT Software Development Base | 4 | 2014 | 4 | 2014 |
| Systems Development: Software Development: Contract Award OEM/DEPOT Reporting into DECKPLATE OY1 | 1 | 2015 | 1 | 2015 |
| Systems Development: Software Development: OEM/DEPOT Software Development OY1 | 1 | 2015 | 3 | 2015 |
| Test & Evaluation: OEM/DEPOT IV&V Testing OY1 | 3 | 2015 | 3 | 2015 |
| Test & Evaluation: OEM/DEPOT Customer Acceptance Testing OY1 | 3 | 2015 | 4 | 2015 |
| Deliveries: OEM/DEPOT Production Release Delivery OY1 | 4 | 2015 | 4 | 2015 |
| DECKPLATE Maint Data Warehouse RAMP | | | | |
| Systems Development: Software Development: Contract Award RAMP Functionality into Deckplate OY1 | 1 | 2015 | 1 | 2015 |
| | 1 | 2015 | 4 | 2015 |

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 9406: <i>Maintenance Data Warehouse</i> |

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Systems Development: Software Development: RAMP Requirements Development OY1 | | | | |
| Systems Development: Software Development: RAMP Design & Schema Architecture OY1 | 3 | 2015 | 4 | 2015 |
| Systems Development: Software Development: RAMP Software Development OY1 | 4 | 2015 | 4 | 2015 |
| Systems Development: Software Development: Contract Award RAMP Functionality into DECKPLATE OY2 | 1 | 2016 | 1 | 2016 |
| Systems Development: Software Development: RAMP Software Development OY2 | 1 | 2016 | 3 | 2016 |
| Test & Evaluation: RAMP IV&V Testing OY2 | 3 | 2016 | 3 | 2016 |
| Test & Evaluation: RAMP Customer Acceptance Testing OY2 | 3 | 2016 | 4 | 2016 |
| Test & Evaluation: Deliveries: RAMP Production Release Delivery OY2 | 4 | 2016 | 4 | 2016 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 9999: <i>Congressional Adds</i> |
|---|--|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 9999: <i>Congressional Adds</i> | 26.979 | - | - | - | - | - | - | - | - | 0.000 | 26.979 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Congressional Interest Items not included in other Projects.

B. Accomplishments/Planned Programs (\$ in Millions)

| | FY 2010 | FY 2011 |
|---|---------|---------|
| Congressional Add: NSWC Corona Item Unique Identification Center FY 2010 Accomplishments: N/A | 1.434 | - |
| Congressional Add: Instrumented Underwater Training Systems FY 2010 Accomplishments: Instrumented Underwater Training Systems | 2.231 | - |
| Congressional Add: Integrated Manufacturing Systems 3D Simulation and Modeling Project FY 2010 Accomplishments: Coordinated with the National Center for Advanced Manufacturing (NCAM) to enhance Intelligent Integrated Manufacturing Systems (IIMS) utilizing 3D Modeling and Simulation that allow NASA and DoD to model their manufacturing and testing complexes, facilities and processors prior to deployment. Enhanced the integration between current IIMS prototype components. Identified high-impact systems that should be targeted for interoperability with the IIMS. Identified the appropriate and develop Connectors to provide interoperability of IIMS with target systems. Developed documentation and IIMS implementation processes. | 1.992 | - |
| Congressional Add: Maintenance Planning and Assessment Technology Insertion FY 2010 Accomplishments: Maintenance Planning and Assessment Technology Insertion | 1.195 | - |
| Congressional Add: METOC Integrated Network-Centric Technology Systems FY 2010 Accomplishments: Used Service Oriented Architecture (SOA) technologies for integrating sensor data with distributed modeling capabilities, making observations discoverable, automated and enhanced existing modeling to provide real-time sensor fusion to improve accuracy and shorten prediction and tactical decision aid turnaround, develop information and knowledge products that improve situational awareness and enhance decision superiority of war fighter. | 2.589 | - |
| Congressional Add: SPAWAR Systems Center/ITC New Orleans | 3.187 | - |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 9999: <i>Congressional Adds</i> |
|---|--|---|

| B. Accomplishments/Planned Programs (\$ in Millions) | FY 2010 | FY 2011 |
|--|----------------|----------------|
| <i>FY 2010 Accomplishments:</i> Provided critical joint Naval/University information systems research, development and technology transfer, in partnership with the University of New Orleans, to include development of enterprise solutions for managing/migrating DoD/Naval personnel systems and to conduct joint Naval/local university information systems research, development of security/disaster preparedness tools, and for the central, design, migration and integration activities for Naval Manpower and Personnel (M&P) systems at the SPAWAR Systems Center New Orleans. | | |
| <i>Congressional Add:</i> Digital Access of NCIS Records <i>FY 2010 Accomplishments:</i> Continuation of project work. | 1.195 | - |
| <i>Congressional Add:</i> Condition-Based Maintenance Enabling Technologies <i>FY 2010 Accomplishments:</i> Continuation of project work. | 2.390 | - |
| <i>Congressional Add:</i> Integration of Logistics Info For Knowledge Projec <i>FY 2010 Accomplishments:</i> Continue the Integration and developemnt of Logistics Info for Knowledge Projection & Readiness program. | 1.593 | - |
| <i>Congressional Add:</i> National Terrorism Preparedness Institute Ccounter <i>FY 2010 Accomplishments:</i> Researched, designed, and developed a Training Support Package (TSP) for Navy Emergency Preparedness Liaison Officers (NEPLOs). Analyzed IC2ATS and MIC2ATS screen designs to determine 508 compliance requirements and modifications for end-users with special needs. Analyzed the IC2ATS and MIC2ATS Graphic User Interface and determined how to further enhance usability, functionality and delivery. Explored and developed advanced methods of delivering data to military personnel and first responders using M-Learning tools accessible through 3G cell phones, iPhones, personal data assistants (PDAs), iPods and similar. Designed and developed an Emergency Response and Recovery for Special Populations training guide for first responders, including those within the Maritime Domain Awareness (MDA) community, who face difficult challenges when assisting special needs populations during the response and recovery phases of emergency events. Designed a Response and Recovery Checklist for Special Needs Populations that can be added to the IC2ATS system's planned reporting functions and serve as a job aid for personnel using the system to respond to community needs. | 2.800 | - |
| <i>Congressional Add:</i> Supply Chain Logistics Capability at the ABL NIROP | 6.373 | - |

UNCLASSIFIED

| | |
|--|----------------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | DATE: February 2011 |
|--|----------------------------|

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605013N: <i>Information Technology Development</i> | PROJECT 9999: <i>Congressional Adds</i> |
|---|--|---|

| B. Accomplishments/Planned Programs (\$ in Millions) | FY 2010 | FY 2011 |
|--|----------------|----------------|
| <i>FY 2010 Accomplishments:</i> Developed specification and issued to the contracting activity for solicitation. Estimated award date is 15 Sept 2010. | | |
| Congressional Adds Subtotals | 26.979 | - |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

Congressional Interest.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | | | R-1 ITEM NOMENCLATURE | | | | | | | | |
|---|----------------|----------------|---|--------------------|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | PE 0605018N: <i>(U)Navy Integrated Mil Human Res Sys(N-IMHRS)</i> | | | | | | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| Total Program Element | - | 27.444 | 55.050 | - | 55.050 | 76.912 | 43.593 | 23.820 | 24.241 | Continuing | Continuing |
| 3034: <i>Future Personnel and Pay Solution</i> | - | 27.444 | 55.050 | - | 55.050 | 76.912 | 43.593 | 23.820 | 24.241 | Continuing | Continuing |

Note

Funding for project 3034 was moved from PE 0605013N to PE 0605018N beginning in FY11. The correct title for the Program is Future Personnel and Pay Solution (FPPS) vice Navy Integrated Military Human Resource System (N-IMHRS).

A. Mission Description and Budget Item Justification

Funding supports Future Personnel and Pay Solution (FPPS) design, development and modernization efforts. Provides development, integration, engineering, and test support of Future Personnel and Pay Solution capabilities, including the modernization and consolidation of existing pay and personnel systems re-using the DIMHRS core software to the maximum extent practical. Includes (1) development of specifications and design of solutions to consolidate Navy legacy personnel systems, development of a single operational data store of personnel data, and development and modernization of legacy interfaces that must remain beyond the consolidation effort, (2) replace the pay capability provided by the Defense Joint Military Pay System (DJMS), providing for Navy specific requirements for pay and personnel management, and develop external interfaces as required to support pay management for the Navy, (3) development and modernization support from the functional organization, (4) Operational Test and Evaluation support for the selected Future Personnel and Pay Solution.

B. Program Change Summary (\$ in Millions)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|-------------------------------------|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | - | 27.444 | 90.239 | - | 90.239 |
| Current President's Budget | - | 27.444 | 55.050 | - | 55.050 |
| Total Adjustments | - | - | -35.189 | - | -35.189 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | - | - | | | |
| • SBIR/STTR Transfer | - | - | | | |
| • Program Adjustments | - | - | -35.052 | - | -35.052 |
| • Rate/Misc Adjustments | - | - | -0.137 | - | -0.137 |

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0605018N: *(U)Navy Integrated Mil Human Res Sys(N-IMHRS)*

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605018N: <i>(U)Navy Integrated Mil Human Res Sys(N-IMHRS)</i> | PROJECT 3034: <i>Future Personnel and Pay Solution</i> |
|---|---|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 3034: <i>Future Personnel and Pay Solution</i> | - | 27.444 | 55.050 | - | 55.050 | 76.912 | 43.593 | 23.820 | 24.241 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

Note
Funds for project 3034 were transferred from PE 0605013N to PE 0605018N beginning in FY11. The correct name of the program is Future Personnel and Pay Solution (FPPS).

A. Mission Description and Budget Item Justification

Funding supports Future Personnel and Pay Solution (FPPS) design, development and modernization efforts. Provides development, integration, engineering, and test support of future personnel and pay system capabilities, including the modernization and consolidation of existing pay and personnel systems re-using the DIMHRS (Defense Integrated Military Human Resources System) core software to the maximum extent practical. Includes (1) development of specifications and design of solutions to consolidate Navy legacy personnel systems, development of a single operational data store of personnel data, and development and modernization of legacy interfaces that must remain beyond the consolidation effort, (2) replace the pay capability provided by the Defense Joint Military Pay System (DJMS), providing for Navy specific requirements for pay and personnel management, and develop external interfaces as required to support pay management for the Navy, (3) development and modernization support from the functional organization, (4) Operational Test and Evaluation support for the selected future personnel and pay solution.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|--|---------|---------|---------|
| Title: Future Personnel and Pay Solution | - | 27.444 | 55.050 |
| Articles: | | 0 | 0 |
| FY 2011 Plans: Risk Reduction Phase: Conduct analysis of the software maturity and capabilities provided in the DIMHRS core software baseline. Conduct legacy system analysis for NES, OPINS, IMAPMIS, RHS, NPDB and NSIPS, including business rules, logic, data and interface considerations for data migration, and modernization of interfaces. Conduct a Technology Demonstration of a proposed system architecture for the FPPS. | | | |
| FY 2012 Plans: Begin Increment One and Increment Two. Increment One will consolidate the 5 major personnel systems. Increment 2 will replace the pay capability and develop external interfaces to support pay management for the Navy. Additionally, development and modernization of legacy system interfaces that must remain beyond the consolidation effort are planned. | | | |
| Accomplishments/Planned Programs Subtotals | - | 27.444 | 55.050 |

UNCLASSIFIED

| | |
|--|----------------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | DATE: February 2011 |
|--|----------------------------|

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605018N: <i>(U)Navy Integrated Mil Human Res Sys(N-IMHRS)</i> | PROJECT 3034: <i>Future Personnel and Pay Solution</i> |
|---|---|--|

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> <u>Base</u> | <u>FY 2012</u> <u>OCO</u> | <u>FY 2012</u> <u>Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
|-------------------------|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| • OPN/8106: <i>FPPS</i> | 0.000 | 0.983 | 1.911 | 0.000 | 1.911 | 1.963 | 4.892 | 4.883 | 1.955 | 0.000 | 16.587 |

D. Acquisition Strategy

Navy began the transition to the development and modification of the Future Personnel and Pay Solution (FPPS) in FY 2010. The acquisition strategy consists of a phased approach, beginning with a Risk Reduction Phase in FY2010 and FY2011 followed by Incremental Development Phases in FY 2012-2014, and Operational Testing and Deployment in FY 2014-2017. Anticipate Full Operational Capability in FY2017.

E. Performance Metrics

1. Demonstrate the feasibility of at least one technical architecture approach for FPPS.
2. Provide validated operational requirements for an integrated Navy pay/personnel system.
3. A 20% reduction in the number of redundant transactional systems for personnel and pay.
4. Documented plan and preliminary design for the consolidation of legacy personnel systems.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605018N: <i>(U)Navy Integrated Mil Human Res Sys(N-IMHRS)</i> | PROJECT 3034: <i>Future Personnel and Pay Solution</i> |
|---|---|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Preliminary Design & Artifacts | C/FP | Unknown:Unknown | - | 4.707 | May 2011 | - | | - | | - | 172.308 | 177.015 | 177.015 |
| Development and Integration | C/FP | Unknown:Unknown | - | - | | 42.000 | Mar 2012 | - | | 42.000 | 0.000 | 42.000 | 42.000 |
| Subtotal | | | - | 4.707 | | 42.000 | | - | | 42.000 | 172.308 | 219.015 | 219.015 |

Remarks
Begin consolidating 5 major personnel systems beginning FY12 and developing interface with other pay systems.

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|-----------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Customization and Gap Development | C/FP | Unknown:Unknown | - | 10.000 | Jul 2011 | - | | - | | - | 0.000 | 10.000 | 10.000 |
| Interface Development | C/FP | Unknown:Unknown | - | 12.737 | Jul 2011 | 3.800 | Mar 2012 | - | | 3.800 | 0.000 | 16.537 | 16.537 |
| System Engineer Change Management | C/FP | Unknown:Unknown | - | - | | 9.250 | Mar 2012 | - | | 9.250 | 0.000 | 9.250 | 9.250 |
| Subtotal | | | - | 22.737 | | 13.050 | | - | | 13.050 | 0.000 | 35.787 | 35.787 |

Remarks
In process of determining contract vehicle.

| | Total Prior Years Cost | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|-------------------------------|----------------|---------------------|--------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Project Cost Totals | | - | 27.444 | 55.050 | - | 55.050 | 172.308 | 254.802 |

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0605018N: *(U)Navy Integrated Mil Human Res Sys(N-IMHRS)*

PROJECT

3034: *Future Personnel and Pay Solution*

| Fiscal Year | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | 2014 | | | | 2015 | | | | 2016 | | | |
|--|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Material Development Decision | | | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | |
| Acquisition Milestone B | | | | | | | | | | | ▲ | | | | | | | | | | | | | | | | | |
| Acquisition Document Development & Review | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | | | ▲ |
| Preliminary Design Review | | | | | | | | ▲ | | | | | | | | | | | | | | | | | | | | |
| Critical Design Review | | | | | | | | | | | | | | | ▲ | | | | | | | | | | | | | |
| Acquisition Milestone C | | | | | | | | | | | | | | | | | | | | ▲ | | | | | | | | |
| Operational Test | | | | | | | | | | | | | | | | | | | | | | | ▲ | | ▲ | | | |
| Full Deployment Decision | | | | | | | | | | | | | | | | | | | | | | | | | | | | ▲ |
| Full Deployment | | | | | | | | | | | | | | | | | | | | | | | | | | | | ▲ |

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605018N: <i>(U)Navy Integrated Mil Human Res Sys(N-IMHRS)</i> | PROJECT 3034: <i>Future Personnel and Pay Solution</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| <i>Proj 3034</i> | | | | |
| Material Development Decision | 3 | 2010 | 3 | 2010 |
| Acquisition Milestone B | 1 | 2012 | 1 | 2012 |
| Acquisition Document Development & Review | 1 | 2010 | 3 | 2016 |
| Preliminary Design Review | 4 | 2011 | 4 | 2011 |
| Critical Design Review | 2 | 2013 | 2 | 2013 |
| Acquisition Milestone C | 3 | 2014 | 3 | 2014 |
| Operational Test | 1 | 2015 | 3 | 2015 |
| Full Deployment Decision | 4 | 2014 | 4 | 2014 |
| Full Deployment | 4 | 2016 | 4 | 2016 |

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605212N: <i>CH-53K</i> |
|---|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| Total Program Element | 503.927 | 577.435 | 629.461 | - | 629.461 | 609.796 | 534.043 | 478.966 | 465.922 | Continuing | Continuing |
| 3059: <i>CH-53K Development</i> | 503.927 | 577.435 | 629.461 | - | 629.461 | 609.796 | 534.043 | 478.966 | 465.922 | Continuing | Continuing |

A. Mission Description and Budget Item Justification

The CH-53 is the only marinized heavy-lift helicopter in the world and is the Marine Corps only heavy-lift helicopter. The CH-53 mission is the conduct of expeditionary heavy-lift assault transport of armored vehicles, equipment and personnel to support distributed operations deep inland from a sea-based center of operations. The CH-53E "Super Stallion" was introduced into operations in 1980 as an upgrade version of the CH-53D. The CH-53E has developed performance degradation, fatigue life, interoperability, maintenance supportability, and other operational concerns. An improved CH-53 is needed to support Marine Air-Ground Task Force heavy-lift requirements in the 21st century joint environment. The CH-53K will provide improvements in range and payload, performance, cargo handling and turn-around times, reliability and maintainability, interoperability, and survivability. The CH-53K program is required to provide full system capability, including shipboard compatibilities, at Initial Operational Capability (IOC).

Total aircraft quantities for the CH-53K program are 205 helicopters. This includes one Ground Test Vehicle (GTV) and four Engineering Development Models (EDMs) for System Development and Demonstration (SDD), to be purchased with RDT&E funds. Of the remaining 200 Production-representative and Production aircraft, the first four Low Rate Initial Production (LRIP) aircraft will be RDT&E funded and the last two will be Aircraft Procurement, Navy (APN) funded. LRIP RDT&E test asset aircraft will be incrementally funded beginning in FY12. The LRIP contract to procure the two APN Articles is scheduled to award in FY16, with an Advanced Acquisition Contract award in FY15. The RDT&E aircraft will be used for Initial Operational Test and Evaluation and the APN aircraft establishing the IOC production base.

FY12 RDT&E efforts focus on CH-53K SDD activities that includes GTV and EDM fabrication and assembly, and preparation for ground and flight test.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605212N: <i>CH-53K</i> |
|---|--|

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 522.268 | 577.435 | 659.989 | - | 659.989 |
| Current President's Budget | 503.927 | 577.435 | 629.461 | - | 629.461 |
| Total Adjustments | -18.341 | - | -30.528 | - | -30.528 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | -1.950 | - | | | |
| • SBIR/STTR Transfer | -15.358 | - | | | |
| • Program Adjustments | - | - | -27.705 | - | -27.705 |
| • Section 219 Reprogramming | -1.020 | - | - | - | - |
| • Rate/Misc Adjustments | - | - | -2.823 | - | -2.823 |
| • Congressional General Reductions Adjustments | -0.013 | - | - | - | - |

Change Summary Explanation

Technical: Not applicable.

Schedule: No changes.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605212N: <i>CH-53K</i> | PROJECT 3059: <i>CH-53K Development</i> |
|---|--|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 3059: <i>CH-53K Development</i> | 503.927 | 577.435 | 629.461 | - | 629.461 | 609.796 | 534.043 | 478.966 | 465.922 | Continuing | Continuing |
| Quantity of RDT&E Articles | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | | |

A. Mission Description and Budget Item Justification

The CH-53 is the only marinized heavy-lift helicopter in the world and is the Marine Corps only heavy-lift helicopter. The CH-53 mission is the conduct of expeditionary heavy-lift assault transport of armored vehicles, equipment and personnel to support distributed operations deep inland from a sea-based center of operations. The CH-53E "Super Stallion" was introduced into operations in 1980 as an upgrade version of the CH-53D. The CH-53E has developed performance degradation, fatigue life, interoperability, maintenance supportability, and other operational concerns. An improved CH-53 is needed to support Marine Air-Ground Task Force heavy-lift requirements in the 21st century joint environment. The CH-53K will provide improvements in range and payload, performance, cargo handling and turn-around times, reliability and maintainability, interoperability, and survivability. The CH-53K program is required to provide full system capability, including shipboard compatibilities, at Initial Operational Capability (IOC).

Total aircraft quantities for the CH-53K program are 205 helicopters. This includes one Ground Test Vehicle (GTV) and four Engineering Development Models (EDMs) for System Development and Demonstration (SDD), to be purchased with RDT&E funds. Of the remaining 200 Production-representative and Production aircraft, the first four Low Rate Initial Production (LRIP) aircraft will be RDT&E funded and the last two will be Aircraft Procurement Navy (APN) funded. LRIP RDT&E test asset aircraft will be incrementally funded beginning in FY12. The LRIP contract to procure the two APN Articles is scheduled to award in FY16, with an Advanced Acquisition Contract award in FY15. The RDT&E aircraft will be used for Initial Operational Test and Evaluation and the APN aircraft establishing the IOC production base.

FY12 RDT&E efforts focus on CH-53K SDD activities that includes GTV and EDM fabrication and assembly, and preparation for ground and flight test.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| Title: Air Vehicle Development | 444.978 | 511.260 | 543.721 |
| Articles: | 2 | 0 | 0 |
| FY 2010 Accomplishments: Performed System Development and Demonstration (SDD) activities for the CH-53K air vehicles and its associated subsystems and components, Government Furnished Equipment (GFE) and CH-53K ancillary systems. | | | |
| FY 2011 Plans: Perform SDD fabrication and assembly activities for the CH-53K EDM air vehicles and its associated subsystems and components, GFE and CH-53K ancillary systems. | | | |
| FY 2012 Plans: | | | |

UNCLASSIFIED

| | | | | |
|--|--|---|----------------|----------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605212N: <i>CH-53K</i> | PROJECT 3059: <i>CH-53K Development</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| Perform SDD fabrication and assembly activities for the CH-53K air vehicles and its associated subsystems and components, GFE and CH-53K ancillary systems. | | | | |
| Title: Integrated Logistics Support | | | | |
| | | Articles: | 13.444 0 | 15.090 0 |
| | | | | 24.167 0 |
| FY 2010 Accomplishments: Performed in-house, field activity and contractor support of Integrated Logistic support and Test & Evaluation activities, including but not limited to planning, preparations, and management of data, support equipment, Studies & Analysis, training elements of CH-53K development, and program Test & Evaluation (T&E) efforts. | | | | |
| FY 2011 Plans: Perform in-house, field activity, and contractor support of Integrated Logistic support and Test & Evaluation activities, including but not limited to planning, preparations, and management of data, support equipment, Studies & Analysis, training elements of CH-53K development, and program T&E efforts. | | | | |
| FY 2012 Plans: Perform in-house, field activity, and contractor support of Integrated Logistic support and Test & Evaluation activities, including but not limited to planning, preparations, and management of data, support equipment, Studies & Analysis, training elements of CH-53K development, and program T&E efforts. | | | | |
| Title: Systems Engineering & Project Management | | | | |
| | | Articles: | 45.505 0 | 51.085 0 |
| | | | | 61.573 0 |
| FY 2010 Accomplishments: Conducted Critical Design Review. Funding supports in-house, field activities, and contractors support of Integrated Product Teams (IPTs) to allow for the preparation of acquisition strategy, examination of equipment and avionics for the CH-53K, and development of acquisition documentation. Efforts included, but were not limited to, government development support, engineering support, program management support, systems engineering support, and travel for the CH-53K program. | | | | |
| FY 2011 Plans: In-house, field activities, and contractors support of IPTs to allow for the preparation of acquisition strategy, examination of equipment and avionics for the CH-53K, and development of acquisition documentation. Efforts include, but are not limited to, government development support, engineering support, program management support, systems engineering support, and travel for the CH-53K program. | | | | |
| FY 2012 Plans: | | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605212N: <i>CH-53K</i> | PROJECT 3059: <i>CH-53K Development</i> |
|---|--|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| In-house, field activities, and contractors support of IPTs to allow for the preparation of acquisition strategy, examination of equipment and avionics for the CH-53K, and development of acquisition documentation. Efforts include, but are not limited to, government development support, engineering support, program management support, systems engineering support, and travel for the CH-53K program. | | | |
| Accomplishments/Planned Programs Subtotals | 503.927 | 577.435 | 629.461 |

C. Other Program Funding Summary (\$ in Millions)

| Line Item | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|---------|---------|-----------------|----------------|------------------|---------|---------|---------|---------|---------------------|------------|
| • APN/0158: <i>CH-53K (Heavy Lift)</i> | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 47.359 | 411.216 | 17,793.805 | 18,252.380 |

D. Acquisition Strategy

On 31 October 2005, the Defense Acquisition Board reviewed the CH-53K program for a Milestone (MS) B decision on entry to SDD. The Under Secretary of the Defense (Acquisition, Technology and Logistics) (USD(AT&L)) signed the Acquisition Decision Memorandum (ADM) allowing the program to proceed with SDD on 22 December 2005. The CH-53K program was initiated as an Acquisition Category ID program, based on total estimated costs for Research, Development, Test and Evaluation, and APN. The SDD prime contract was awarded sole-source contract to Sikorsky Aircraft Corporation on 5 April, 2006, following the MS B decision. SDD efforts will develop and document technology maturations, selections, and integration into CH-53E design modifications for a new CH-53K variant; produce one CH-53K GTV and four CH-53K EDMs; and conduct and support T&E activities fulfilling milestone exit criteria.

E. Performance Metrics

Since MS B, the program team has followed a disciplined, event-driven, design and development process. The program completed Preliminary Design Review in September 2008 and conducted Critical Design Review in July 2010. System meets or exceeds all Key Performance Parameters.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605212N: <i>CH-53K</i> | PROJECT 3059: <i>CH-53K Development</i> |
|---|--|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Primary Hardware Development | SS/CPAF | Sikorsky:Stratford, CT | 1,756.187 | 475.451 | Dec 2010 | 508.412 | Dec 2011 | - | | 508.412 | 1,958.111 | 4,698.161 | 4,698.161 |
| GFE | Various | Various:Various | 29.678 | 2.229 | Dec 2010 | 5.306 | Dec 2011 | - | | 5.306 | 89.169 | 126.382 | |
| Award Fees | SS/CPAF | Sikorsky:Stratford, CT | 63.800 | 33.580 | Dec 2011 | 30.003 | Sep 2012 | - | | 30.003 | 92.411 | 219.794 | 219.794 |
| Subtotal | | | 1,849.665 | 511.260 | | 543.721 | | - | | 543.721 | 2,139.691 | 5,044.337 | |

Remarks
 Award Fee earned in FY 2006 by Sikorsky Aircraft Corporation equaled sixty-three percent of available award fee pool.
 Award Fee earned in FY 2007 by Sikorsky Aircraft Corporation equaled thirty-five percent of available award fee pool.
 Award Fee earned in FY 2008 by Sikorsky Aircraft Corporation equaled fifty-six percent of available award fee pool.
 Award Fee earned in FY 2009 by Sikorsky Aircraft Corporation equaled sixty-one percent of available award fee pool.
 Award Fee earned in FY 2010 by Sikorsky Aircraft Corporation equaled sixty percent of available award fee pool.
 Primary Hardware Development Target Value of Contract includes LRIP RDT&E contract not yet negotiated.

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Development Support | Various | NAWCAD:Lakehurst, NJ | - | - | | - | | - | | - | 31.673 | 31.673 | |
| Integrated Logistics Support | WR | NAWCAD:Lakehurst, NJ | - | 4.000 | Dec 2010 | 4.500 | Dec 2011 | - | | 4.500 | 2.552 | 11.052 | |
| Integrated Logistics Support | WR | NADEP:Cherry Point, NC | - | 2.000 | Dec 2010 | 2.500 | Dec 2011 | - | | 2.500 | 2.000 | 6.500 | |
| Integrated Logistics Support | WR | Various:Various | 33.047 | 1.857 | Dec 2010 | 2.084 | Dec 2011 | - | | 2.084 | 60.318 | 97.306 | |
| Studies & Analyses | WR | NSWC:Crane, IN | - | 4.000 | Dec 2010 | 5.000 | Dec 2011 | - | | 5.000 | 9.272 | 18.272 | |
| Studies & Analyses | Various | Various:Various | 21.627 | 1.142 | Dec 2010 | 1.272 | Dec 2011 | - | | 1.272 | 33.181 | 57.222 | |
| Subtotal | | | 54.674 | 12.999 | | 15.356 | | - | | 15.356 | 138.996 | 222.025 | |

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605212N: <i>CH-53K</i> | PROJECT 3059: <i>CH-53K Development</i> |
|---|--|---|

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Developmental Test & Evaluation | WR | Various:Various | 9.102 | 1.137 | Dec 2010 | 2.357 | Dec 2011 | - | | 2.357 | 59.951 | 72.547 | |
| Developmental Test & Evaluation | WR | TBD:TBD | - | - | | 4.000 | Dec 2011 | - | | 4.000 | 0.000 | 4.000 | |
| Operational Test & Evaluation | WR | COMPTEVFOR:Norfolk, VA | 0.595 | 0.500 | Dec 2010 | 2.000 | Dec 2011 | - | | 2.000 | 42.013 | 45.108 | |
| Live Fire Test & Evaluation | WR | NAWCWD:China Lake, CA | 2.080 | 0.454 | Jan 2011 | 0.454 | Dec 2011 | - | | 0.454 | 16.239 | 19.227 | |
| Subtotal | | | 11.777 | 2.091 | | 8.811 | | - | | 8.811 | 118.203 | 140.882 | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Contractor Engineering Support | Various | Various:Various | 9.934 | 2.362 | Dec 2010 | 2.881 | Dec 2011 | - | | 2.881 | 19.500 | 34.677 | |
| Government Engineering Support | WR | NAWCAD:Pax River, MD | 145.764 | 34.656 | Dec 2010 | 41.559 | Dec 2011 | - | | 41.559 | 279.729 | 501.708 | |
| Program Management Support | C/CPFF | Camber:MD | - | 11.000 | Dec 2010 | 12.000 | Dec 2011 | - | | 12.000 | 0.000 | 23.000 | 23.000 |
| Program Management Support | Various | Various:Various | 56.267 | 2.378 | Dec 2010 | 4.293 | Dec 2011 | - | | 4.293 | 110.352 | 173.290 | |
| Travel | WR | NAWCAD:Pax River, MD | 2.896 | 0.689 | Dec 2010 | 0.840 | Dec 2011 | - | | 0.840 | 5.686 | 10.111 | |
| Acquisition Workforce Fund | Various | Various:Various | 1.950 | - | | - | | - | | - | 0.000 | 1.950 | |
| Subtotal | | | 216.811 | 51.085 | | 61.573 | | - | | 61.573 | 415.267 | 744.736 | |

| | Total Prior Years Cost | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|------------------------|-----------|---------|--------------|---------|-------------|---|---------------|------------------|------------|--------------------------|
| Project Cost Totals | | 2,132.927 | 577.435 | | 629.461 | | - | 629.461 | 2,812.157 | 6,151.980 | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605212N: <i>CH-53K</i> | PROJECT 3059: <i>CH-53K Development</i> |
|---|--|---|

| | Total Prior Years Cost | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|--|------------------------|---------|--------------|-------------|---------------|------------------|------------|--------------------------|
|--|------------------------|---------|--------------|-------------|---------------|------------------|------------|--------------------------|

Remarks
 The PB-11 budget fully funded the CH-53K program to the OSD CAPE estimate of \$6,082.9M and supported a FY18 IOC. Adjustments leading up to the PB-12 budget controls reduced program funding. These reductions would result in a program schedule delay of approximately 7 months and associated net cost increase of \$69.0M (total cost increase from \$6,082.9 to \$6,152.0).

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605212N: <i>CH-53K</i> | PROJECT 3059: <i>CH-53K Development</i> |
|---|--|---|

| CH-53K Development | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | | | | | |
|---------------------------------|--------------------------|----|-----|----|---------|----|-----------------|----|----------------------------|----|----|-----|---------|----|----|--------|----------|----|----|--------|---------|----|----|--------|---------|----|----|--------|--|--|--|--|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | | | | |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Milestones | System Integration phase | | | | | | | | System Demonstration phase | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| System Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hardware Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Software Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reviews | | | CDR | | | | Post CDR Review | | | | | FRR | | | | | | | | | | | | | | | | | | | | |
| Development Deliveries | | | | | | | | | | | | GTV | | | | EDM #1 | | | | EDM #2 | | | | EDM #3 | | | | EDM #4 | | | | |
| Test & Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Developmental Test & Evaluation | | | | | | | | | ALFT&E | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | TECHEVAL | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operational Test & Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contract Award | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0605212N - 3059

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605212N: <i>CH-53K</i> | PROJECT 3059: <i>CH-53K Development</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| CH-53K Development | | | | |
| Acquisition Milestones: Milestones: System Integration phase | 1 | 2010 | 2 | 2011 |
| Acquisition Milestones: Milestones: System Demonstration phase | 2 | 2011 | 4 | 2016 |
| Acquisition Milestones: Milestones: Integrated Logistics Assessment (ILA) | 3 | 2015 | 3 | 2015 |
| Acquisition Milestones: Milestones: Milestone C | 4 | 2015 | 4 | 2015 |
| System Development: Reviews: Critical Design Review (CDR) | 4 | 2010 | 4 | 2010 |
| System Development: Reviews: DRR/Post CDR Assessment | 2 | 2011 | 2 | 2011 |
| System Development: Reviews: Flight Readiness Review (FRR) | 4 | 2012 | 4 | 2012 |
| System Development: Reviews: Production Readiness Review (PRR) | 3 | 2014 | 3 | 2014 |
| System Development: Development Deliveries: Ground Test Vehicle (GTV) Delivery | 3 | 2012 | 3 | 2012 |
| System Development: Development Deliveries: Engineering Development Model (EDM) #1 delivery | 4 | 2012 | 4 | 2012 |
| System Development: Development Deliveries: Engineering Development Model (EDM) #2 delivery | 2 | 2013 | 2 | 2013 |
| System Development: Development Deliveries: Engineering Development Model (EDM) #3 delivery | 4 | 2013 | 4 | 2013 |
| System Development: Development Deliveries: Engineering Development Model (EDM) #4 delivery | 2 | 2014 | 2 | 2014 |
| Test & Evaluation: Developmental Test & Evaluation: Alternative Live Fire T&E (ALFT&E) (Comp.) | 1 | 2011 | 4 | 2016 |
| Test & Evaluation: Developmental Test & Evaluation: Developmental Test / TECHEVAL | 1 | 2013 | 4 | 2016 |
| Test & Evaluation: Developmental Test & Evaluation: First Flight | 2 | 2013 | 2 | 2013 |
| | 2 | 2015 | 2 | 2015 |

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605212N: <i>CH-53K</i> | PROJECT 3059: <i>CH-53K Development</i> |

| Events by Sub Project | Start | | End | |
|---|----------------|-------------|----------------|-------------|
| | Quarter | Year | Quarter | Year |
| Test & Evaluation: Operational Test & Evaluation: Operational Test & Evaluation (OT) B1 (OT-B1) | | | | |
| Production Milestones: Contract Award: LRIP 1 Contract Award | 1 | 2016 | 1 | 2016 |

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | | | | R-1 ITEM NOMENCLATURE | | | | | | | |
|---|----------------|----------------|---------------------|---|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | PE 0605430N: <i>C/KC-130 Avionics Modernization Program (AMP)</i> | | | | | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| Total Program Element | 1.268 | - | - | - | - | - | - | - | - | 0.000 | 1.268 |
| 3199: <i>Avionics Modernization Program</i> | 1.268 | - | - | - | - | - | - | - | - | 0.000 | 1.268 |

A. Mission Description and Budget Item Justification

Harvest HAWK - The objective of this effort is to integrate an ISR (Intelligence, Surveillance & Reconnaissance) Weapon System Kit into the KC-130J aircraft which provides an armed capability to provide intra-theater suppressive fire support for ground troops as well as intelligence and reconnaissance capability for theater commanders. The new KC-130J is a force multiplier. The J tanker is capable of refueling both fixed wing and rotary wing aircraft, as well as conducting rapid ground refueling. KC-130Js have been continuously deployed in support of world-wide combat operations providing multi-mission, tactical aerial refueling, and fixed-wing assault support. This added capability will provide the Marine Air Group Task Force (MAGTF) commander increased capability for real time intelligence gathering and an armed capability for targets of opportunity and suppressive fire-support. The ISR/Weapon System Kit will consist of a target sight sensor, wing mounted air-to-ground missiles, air-to-ground precision guided munition delivery via the aft cargo door, and a rapid fire 30mm cannon. The system will be configured as a Roll-On/Roll-Off capability to allow for rapid deployment. The program will leverage off of current technology/fielded systems to provide rapid integration of this new capability. Future capabilities will include door modifications to allow the 30mm cannon to be able to fire with the door in the closed position, capability to launch precision guided munitions from within the aircraft while pressurized and moving the Hellfire launch rack from the 330 wing-station to the 430 wing-station.

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | - | - | - | - | - |
| Current President's Budget | 1.268 | - | - | - | - |
| Total Adjustments | 1.268 | - | - | - | - |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | 1.268 | - | | | |
| • SBIR/STTR Transfer | - | - | | | |

Change Summary Explanation

Technical: Not applicable.

Schedule: Fielding Decision successfully completed 9/30/2010.

UNCLASSIFIED

| | | | | | | | | | | | |
|---|----------------|----------------|---------------------|---|----------------------|----------------|----------------|---|----------------------------|-------------------------|-------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | | | | | | | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | R-1 ITEM NOMENCLATURE PE 0605430N: <i>C/KC-130 Avionics Modernization Program (AMP)</i> | | | | PROJECT 3199: <i>Avionics Modernization Program</i> | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| 3199: <i>Avionics Modernization Program</i> | 1.268 | - | - | - | - | - | - | - | - | 0.000 | 1.268 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Harvest HAWK - The objective of this effort is to integrate an ISR (Intelligence, Surveillance & Reconnaissance) Weapon System Kit into the KC-130J aircraft which provides an armed capability to provide intra-theater suppressive fire support for ground troops as well as intelligence and reconnaissance capability for theater commanders. The new KC-130J is a force multiplier. The J tanker is capable of refueling both fixed wing and rotary wing aircraft, as well as conducting rapid ground refueling. KC-130Js have been continuously deployed in support of world-wide combat operations providing multi-mission, tactical aerial refueling, and fixed-wing assault support. This added capability will provide the Marine Air Group Task Force (MAGTF) commander increased capability for real time intelligence gathering and an armed capability for targets of opportunity and suppressive fire-support. The ISR/Weapon System Kit will consist of a target sight sensor, wing mounted air-to-ground missiles, air-to-ground precision guided munition delivery via the aft cargo door, and a rapid fire 30mm cannon. The system will be configured as a Roll-On/Roll-Off capability to allow for rapid deployment. The program will leverage off of current technology/fielded systems to provide rapid integration of this new capability. Future capabilities will include door modifications to allow the 30mm cannon to be able to fire with the door in the closed position, capability to launch precision guided munitions from within the aircraft while pressurized and moving the Hellfire launch rack from the 330 wing-station to the 430 wing-station.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Title: Avionics Modernization Program | 1.268 | - | - | - | - |
| Articles: | 0 | | | | |
| FY 2010 Accomplishments: Harvest HAWK Fielding Decision approved and platform is now OCONUS supporting OEF. | | | | | |
| Accomplishments/Planned Programs Subtotals | 1.268 | - | - | - | - |

UNCLASSIFIED

| | |
|--|----------------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | DATE: February 2011 |
|--|----------------------------|

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605430N: <i>C/KC-130 Avionics Modernization Program (AMP)</i> | PROJECT 3199: <i>Avionics Modernization Program</i> |
|---|---|---|

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> <u>Base</u> | <u>FY 2012</u> <u>OCO</u> | <u>FY 2012</u> <u>Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
|---|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| • APN/0560: <i>C-130 Series (OSIP 022-07)</i> | 52.324 | 0.000 | 0.000 | 10.200 | 10.200 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 99.020 |

D. Acquisition Strategy

Harvest HAWK - The Harvest HAWK Program has awarded a FFP contract with Lockheed Martin Marietta / Lockheed Martin Skunkworks to perform system integration and engineering of the Harvest HAWK capability. The strategy is to use one contract to perform both system integration and production.

E. Performance Metrics

Successful completion of Developmental Testing/Quick Assessment Review to support OCONUS deployment October 2010.

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | | | R-1 ITEM NOMENCLATURE | | | | | | | | |
|---|----------------|----------------|--|--------------------|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> | | | PE 0605450N: <i>Joint Air-to-ground Missile (JAGM)</i> | | | | | | | | |
| BA 5: <i>Development & Demonstration (SDD)</i> | | | | | | | | | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| Total Program Element | 61.762 | 100.846 | 118.395 | - | 118.395 | 124.490 | 129.651 | 61.629 | 34.147 | Continuing | Continuing |
| 2211: <i>Joint Air-to-Ground Missile</i> | 61.762 | 100.846 | 118.395 | - | 118.395 | 124.490 | 129.651 | 61.629 | 34.147 | Continuing | Continuing |

A. Mission Description and Budget Item Justification

JAGM is an Army-led close-air-support missile program that will utilize tri-mode seeker technology and be employed against land and maritime stationary and moving targets. JAGM will provide a fixed wing, rotary wing, and unmanned aircraft system launched missile system that provides advanced Line-of-sight and Beyond-line-of-sight capabilities, including precision point targeting and fire and forget seeker technologies, increased range, and increased lethality against soft and hardened moving and stationary targets. Its multi-mode seeker will provide robust capability in adverse weather, day or night, and in an obscured/countermeasure environment, against both stationary and moving targets. Initial Navy platform integration efforts include the F/A-18E/F, AH-1Z and MH-60R platforms. The JAGM system includes the missiles, trainers, containers, support equipment, and launcher modifications.

FY08 funding captured under PE 0604450N.

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 77.412 | 100.846 | 120.044 | - | 120.044 |
| Current President's Budget | 61.762 | 100.846 | 118.395 | - | 118.395 |
| Total Adjustments | -15.650 | - | -1.649 | - | -1.649 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | -13.581 | - | | | |
| • SBIR/STTR Transfer | -1.330 | - | | | |
| • Program Adjustments | -0.001 | - | -0.096 | - | -0.096 |
| • Section 219 Reprogramming | -0.736 | - | - | - | - |
| • Rate/Misc Adjustments | - | - | -1.553 | - | -1.553 |
| • Congressional General Reductions | -0.002 | - | - | - | - |
| Adjustments | | | | | |

Change Summary Explanation

Technical: Not applicable.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy DATE: February 2011

| APPROPRIATION/BUDGET ACTIVITY | R-1 ITEM NOMENCLATURE |
|---|--|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | PE 0605450N: <i>Joint Air-to-ground Missile (JAGM)</i> |

Schedule:

JAGM is a lead program for implementation of the OSD Competitive Technology Development (TD) initiatives. The goals for each of the JAGM TD contractors were achieved, including system level Preliminary Design Reviews, 3 ground launched missile shots demonstrating each of the 3 seeker modes (SAL/IR/MMW), F/A-18E/F wind tunnel testing of the new launcher/missile configuration, and F/A-18 E/F flying quality flight tests. The JAGM Engineering Manufacturing Development acquisition approach is aligned with FY09 Weapon Systems Acquisition Reform Act initiatives and OSD (AT&L) acquisition initiatives. The JAGM MS B originally scheduled in 1Q FY11 has been delayed to 3Q FY11 while obtaining approval of the JAGM Acquisition Strategy. As a result, there will be corresponding delays to the program. Army Extended Range Multi Purpose Unmanned Aerial System, Armed Reconnaissance Helicopter Integration, and Production Qualification Test deleted from the Navy schedule as it is not required to depict Army efforts on the Navy schedule.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605450N: <i>Joint Air-to-ground Missile (JAGM)</i> | PROJECT 2211: <i>Joint Air-to-Ground Missile</i> |
|---|--|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 2211: <i>Joint Air-to-Ground Missile</i> | 61.762 | 100.846 | 118.395 | - | 118.395 | 124.490 | 129.651 | 61.629 | 34.147 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

JAGM is an Army-led close-air-support missile program that will utilize tri-mode seeker technology and be employed against land and maritime stationary and moving targets. JAGM will provide a fixed wing, rotary wing, and unmanned aircraft system launched missile system that provides advanced Line-of-sight and Beyond-line-of-sight capabilities, including precision point targeting and fire and forget seeker technologies, increased range, and increased lethality against soft and hardened moving and stationary targets. Its multi-mode seeker will provide robust capability in adverse weather, day or night, and in an obscured/countermeasure environment, against both stationary and moving targets. Initial Navy platform integration efforts include the F/A-18E/F, AH-1Z and MH-60R platforms. The JAGM system includes the missiles, trainers, containers, support equipment, and launcher modifications.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|--|-------------|--------------|--------------|
| <p>Title: JAGM Technology Development</p> <p style="text-align: right;">Articles:</p> <p>FY 2010 Accomplishments: Funding was used towards an OSD directed 27 month competitive technology development effort. Funding was used to support the Navy's program management and integration efforts on 3 threshold platforms. This included support of all acquisition, system engineering and test reviews. Navy integration efforts were focused on the following threshold platforms: F/A-18E/F, AH-1Z and MH-60R.</p> | 61.762 0 | - | - |
| <p>Title: JAGM Engineering and Manufacturing Development (EMD)</p> <p>FY 2011 Plans: Funding is to be used towards EMD. A competitive downselect at the end of the technology development effort will allow for continuation of one contractor into the 4-year EMD period. Funding will be used to support the Navy's program management and integration efforts on 3 threshold platforms. This includes support of all acquisition, system engineering and test reviews. Navy integration efforts are focused on the following threshold platforms: F/A-18E/F, AH-1Z and MH-60R.</p> <p>FY 2012 Plans: Funding is to be used towards EMD. A competitive downselect at the end of the technology development effort will allow for continuation of one contractor into the 4-year EMD period. Funding will be used to support the Navy's program management and</p> | - | 100.846 0 | 118.395 0 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605450N: <i>Joint Air-to-ground Missile (JAGM)</i> | PROJECT 2211: <i>Joint Air-to-Ground Missile</i> |
|---|--|--|

| | | | |
|--|----------------|----------------|----------------|
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
| integration efforts on 3 threshold platforms. This includes support of all acquisition, system engineering and test reviews. Navy integration efforts are focused on the following threshold platforms: F/A-18E/F, AH-1Z and MH-60R. | | | |
| Accomplishments/Planned Programs Subtotals | 61.762 | 100.846 | 118.395 |

C. Other Program Funding Summary (\$ in Millions)

| Line Item | FY 2010 | FY 2011 | FY 2012 | | | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To | |
|------------------------------|---------|---------|---------|-------|---------|---------|---------|---------|---------|------------|------------|
| | | | Base | OCO | Total | | | | | Complete | Total Cost |
| • WPN, 224800: JAGM | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 9.869 | 166.722 | 174.673 | 2,941.036 | 3,292.300 |
| • RDT&E ARMY, 0605450A: JAGM | 126.775 | 130.340 | 127.534 | 0.000 | 127.534 | 136.692 | 109.476 | 57.084 | 58.054 | Continuing | Continuing |
| • MPA, C70302: JAGM | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 5.508 | 96.442 | 98.081 | 3,313.250 | 3,513.281 |

D. Acquisition Strategy

The JAGM System is a pre-Acquisition Category 1D Joint Army/Navy program with the Army designated as lead service. The Government utilized full and open competition to initiate the Technology Development phase of the JAGM program. The 27 month Technology Development phase is complete and will be followed by a 48 month EMD phase followed by limited rate and full rate production. In the TD Phase the two contractors completed a Preliminary Design Review, windtunnel, ground testing, and flight testing in support of initial Navy platform integration activities. A competitive downselect is planned to choose a single contractor to continue into the EMD phase.

E. Performance Metrics

JAGM completed the OSD directed 27 month competitive technology development effort 1Q FY 2011.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605450N: <i>Joint Air-to-ground Missile (JAGM)</i> | PROJECT 2211: <i>Joint Air-to-Ground Missile</i> |
|---|--|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Technology Development | C/CPIF | Lockheed Martin:Orlando, FL | 13.846 | - | | - | | - | | - | 0.000 | 13.846 | 13.846 |
| Technology Development | C/CPIF | Raytheon:Tucson, AZ | 13.846 | - | | - | | - | | - | 0.000 | 13.846 | 13.846 |
| EMD | C/CPIF | TBD:TBD | - | 47.434 | Dec 2010 | 47.182 | Dec 2011 | - | | 47.182 | 163.185 | 257.801 | 257.801 |
| Aircraft Integraton | WR | NAWCAD:Pax River, MD | 2.589 | 1.806 | Nov 2010 | 10.066 | Nov 2011 | - | | 10.066 | 29.974 | 44.435 | |
| Aircraft Integration (AH-1Z) | SS/T&M | Bell Helicopter:Hurst, TX | 2.500 | 4.420 | Dec 2010 | 0.901 | Dec 2011 | - | | 0.901 | 4.147 | 11.968 | 11.968 |
| Aircraft Integration (F-18E/F) | SS/T&M | Boeing:St. Louis MO | 15.702 | 3.391 | Jan 2011 | 3.400 | Jan 2012 | - | | 3.400 | 11.139 | 33.632 | 33.632 |
| Aircraft Integration (MH-60R) | SS/T&M | Sikorsky:East Hartford CT | 1.600 | 0.500 | Apr 2011 | 4.000 | Apr 2012 | - | | 4.000 | 3.205 | 9.305 | 9.305 |
| Sytems Eng - WD | WR | NAWCWD:China Lake, CA | 27.985 | 15.427 | Nov 2010 | 16.056 | Nov 2011 | - | | 16.056 | 37.298 | 96.766 | |
| Subtotal | | | 78.068 | 72.978 | | 81.605 | | - | | 81.605 | 248.948 | 481.599 | |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Development Support | WR | NAWCWD:China Lake, CA | 5.730 | 7.277 | Nov 2010 | 14.184 | Nov 2011 | - | | 14.184 | 62.367 | 89.558 | |
| Software Development | SS/T&M | LMSI:Owego NY | 5.196 | 6.250 | Jan 2011 | 8.021 | Jan 2012 | - | | 8.021 | 15.979 | 35.446 | 35.446 |
| Integrated Logistics Support | WR | NAWCWD:China Lake, CA | 0.728 | 0.874 | Nov 2010 | 1.395 | Nov 2011 | - | | 1.395 | 5.368 | 8.365 | |
| Subtotal | | | 11.654 | 14.401 | | 23.600 | | - | | 23.600 | 83.714 | 133.369 | |

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605450N: <i>Joint Air-to-ground Missile (JAGM)</i> | PROJECT 2211: <i>Joint Air-to-Ground Missile</i> |
|---|--|--|

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Test & Evaluation | WR | NAWCAD:Pax River , MD | 4.500 | 3.625 | Nov 2010 | 3.721 | Nov 2011 | - | | 3.721 | 21.630 | 33.476 | |
| Test & Evaluation | WR | NAWCWD:China Lake, CA | 4.900 | 3.272 | Nov 2010 | 3.335 | Nov 2011 | - | | 3.335 | 21.789 | 33.296 | |
| Test & Evaluation | MIPR | NASA AMES:CA | 2.601 | 0.500 | Nov 2010 | - | | - | | - | 0.000 | 3.101 | |
| Test & Evaluation | MIPR | AEDC/DOF, AFB:TN | 8.764 | - | | - | | - | | - | 0.000 | 8.764 | |
| Subtotal | | | 20.765 | 7.397 | | 7.056 | | - | | 7.056 | 43.419 | 78.637 | |

Remarks
Contract type for Test \$ Evaluation to NASA AMES is IPR.

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Contr Eng Supt - ETS (NON-FFRDC) | Various | Various:Various | 4.750 | 2.450 | Dec 2010 | 2.417 | Nov 2011 | - | | 2.417 | 3.645 | 13.262 | |
| Government Eng Sup | WR | NAWCAD:Pax River, MD | 5.673 | 3.520 | Nov 2010 | 3.630 | Nov 2011 | - | | 3.630 | 8.030 | 20.853 | |
| Travel - Internal | WR | NAVAIR:Pax River, MD | 0.200 | 0.100 | Oct 2010 | 0.087 | Nov 2011 | - | | 0.087 | 0.200 | 0.587 | |
| Acquisition Workforce Fund | Various | Various:Various | 0.404 | - | | - | | - | | - | 0.000 | 0.404 | |
| Subtotal | | | 11.027 | 6.070 | | 6.134 | | - | | 6.134 | 11.875 | 35.106 | |

Remarks
Contract type for Travel is TO.

| | Total Prior Years Cost | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|-------------------------------|----------------|---------|---------------------|---------|--------------------|---|----------------------|-------------------------|-------------------|---------------------------------|
| Project Cost Totals | | 121.514 | 100.846 | | 118.395 | | - | 118.395 | 387.956 | 728.711 | |

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605450N: <i>Joint Air-to-ground Missile (JAGM)</i> | PROJECT 2211: <i>Joint Air-to-Ground Missile</i> |
|---|--|--|

| JAGM | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | | | | | | | | | | | |
|---------------------------------------|---------|----|----|----|---------|----|----|----|---------|----|----|----|------------------------|----|----|----|---------|----|----|----|----------|----|----|----|----------|----|----|----|--|--|--|--|--|--|--|--|--|--|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | | | | | | | | | | |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Systems Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TECH DEV PHASE | ■ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EMD | | | | | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EMD Phase | | | | | ■ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reviews | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PDR | ■ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CDR | | | | | | | | | | | ■ | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| IPR | | | | | | | | | | | | | | | | | | | ■ | | | | | | | | | | | | | | | | | | | |
| Test and Evaluation Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Integration | | | | | | | | | | | | | AH-1Z Integration | | | | | | | | DT Shots | | | | | | | | | | | | | | | | | |
| Development Testing | | | | | | | | | | | | | F/A-18 E/F Integration | | | | | | | | | | | | DT Shots | | | | | | | | | | | | | |
| MH-60R Integration | ■ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Eng Dev Test (EDT) | EDT 1 | | | | EDT 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Prod Prove-Out Test (System Qual) | | | | | | | | | ■ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contract Awards | | | | | | | | | | | | | | | | | | | ● | | ● | | | | | | | | | | | | | | | | | |
| ADV PROC 1 | | | | | | | | | | | | | | | | | | | ● | | | | | | | | | | | | | | | | | | | |
| LRIP 1 | | | | | | | | | | | | | | | | | | | | | ● | | | | | | | | | | | | | | | | | |
| ADV PROC 2 | | | | | | | | | | | | | | | | | | | | | ● | | | | | | | | | | | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0605450N - 2211

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605450N: <i>Joint Air-to-ground Missile (JAGM)</i> | PROJECT 2211: <i>Joint Air-to-Ground Missile</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| JAGM | | | | |
| Acquisition Milestones: Milestones: Milestone B | 3 | 2011 | 3 | 2011 |
| Acquisition Milestones: Milestones: Milestone C | 3 | 2015 | 3 | 2015 |
| Systems Development: Technology Development Phase | 1 | 2010 | 1 | 2011 |
| Systems Development: Engineering and Manufacturing Development (EMD) Contract Award | 4 | 2011 | 4 | 2011 |
| Systems Development: EMD Phase | 4 | 2011 | 4 | 2015 |
| Reviews: Program Design Review | 3 | 2010 | 3 | 2010 |
| Reviews: Critical Design Review | 1 | 2013 | 1 | 2013 |
| Reviews: In-Process Review | 1 | 2015 | 1 | 2015 |
| Test and Evaluation Milestones: Integration: AH-1Z Integration | 1 | 2010 | 3 | 2014 |
| Test and Evaluation Milestones: Integration: AH-1Z Development Test (DT) Shots | 4 | 2014 | 2 | 2015 |
| Test and Evaluation Milestones: Development Testing: F/A-18 E/F Integration | 1 | 2010 | 3 | 2014 |
| Test and Evaluation Milestones: Development Testing: F/A-18 E/F DT Shots | 4 | 2014 | 2 | 2015 |
| Test and Evaluation Milestones: Development Testing: MH-60R Integration | 1 | 2010 | 4 | 2016 |
| Test and Evaluation Milestones: Eng Dev Test (EDT): Engineering Development Test (1) | 1 | 2010 | 1 | 2011 |
| Test and Evaluation Milestones: Eng Dev Test (EDT): Engineering Development Test (2) | 2 | 2011 | 4 | 2012 |
| Test and Evaluation Milestones: Prod Prove-Out Test (System Qual): Prod Prove-Out Test (System Qual) | 1 | 2012 | 3 | 2015 |
| Production Milestones: Contract Awards: Advanced Procurement 1 | 1 | 2015 | 1 | 2015 |
| Production Milestones: Contract Awards: LRIP 1 WPN | 1 | 2016 | 1 | 2016 |

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605450N: <i>Joint Air-to-ground Missile (JAGM)</i> | PROJECT 2211: <i>Joint Air-to-Ground Missile</i> |

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Production Milestones: Contract Awards: Advanced Procurement 2 | 1 | 2016 | 1 | 2016 |

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605500N: <i>Multi-mssn Maritime Aircraft (MMA) (P-8A)</i> |
|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|-----------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| Total Program Element | 1,138.681 | 929.240 | 622.713 | - | 622.713 | 334.551 | 266.849 | 274.887 | 202.262 | Continuing | Continuing |
| 2696: <i>Multi-Mission Maritime Aircraft</i> | 1,116.479 | 923.258 | 544.666 | - | 544.666 | 227.739 | 125.088 | 80.126 | - | 0.000 | 3,017.356 |
| 3181: <i>P-8A Spiral One Development</i> | 9.256 | 3.995 | 59.832 | - | 59.832 | 85.379 | 57.952 | 56.941 | 30.690 | Continuing | Continuing |
| 3218: <i>P-8A Spiral 2 Development</i> | - | 1.987 | 18.215 | - | 18.215 | 21.433 | 83.809 | 137.820 | 171.572 | Continuing | Continuing |
| 9999: <i>Congressional Adds</i> | 12.946 | - | - | - | - | - | - | - | - | 0.000 | 12.946 |

A. Mission Description and Budget Item Justification

The P-8A Multi-mission Maritime Aircraft (MMA) will replace the aging P-3 aircraft. The P-8A program was initiated in response to the Joint Requirements Oversight Council (JROC) validated Mission Needs Statement, "Broad Area Maritime and Littoral Armed Intelligence, Surveillance and Reconnaissance" and the requirements for the program are defined in the MMA Operational Requirements Document/Capability Development Document, validated and approved by JROC on 08 December 2003. A successful Critical Design Review (CDR) was completed in June 2007. In August 2007 the Design Readiness Review was conducted and resulted in approval to obligate funding for the fabrication of the Stage II flight test aircraft. The Interim Program Review (IPR) was completed on 7 April 2009 based on release of Acquisition Decision Memorandum. The first flight of P-8A occurred on 25 Apr 2009.

The primary objectives of SDD are to: perform the system detailed design, develop and produce Systems Integration Labs, develop and build ground and flight test articles and prepare for Milestone (MS) C. Six flight test aircraft have been built during SDD. These test aircraft are grouped into two stages based on which phase of the test program the aircraft will support. SDD Stage I flight test aircraft (FY06/Qty-3) support Integrated Test and Evaluation (IT&E). SDD Stage II flight test aircraft (FY09/Qty-3) support the completion of IT&E and Initial Operational Test and Evaluation (IOT&E) after being updated to the production configuration. The SDD contract includes the development and initial builds of training devices to support IOT&E. The scope of SDD includes activities necessary to facilitate an efficient transition of the fleet to achieve the P-8A Initial Operational Capability (IOC) of Increment 1 in CY13. P-8A entered Production and Deployment development phase in the 4th quarter of FY10 after completing MS-C Defense Acquisition Board (DAB).

P-8A program is based on an evolutionary acquisition strategy consisting of sequential incremental enhancements to system capabilities that will retain cost-wise effectiveness for winning major combat operations through 2020. In order to pace the threat, Increment 2, the Next Phase of Capabilities, will incorporate the following capabilities into the P-8A: Multi-Static Active Coherent (MAC), Automatic Identification System, Aircraft Rapid Commercial-Off-The-Shelf Insertion (ARCI), updates to the Tactical Operations Center (TOC), as well as additional Anti-Submarine Warfare (ASW), Anti-Surface Warfare (ASuW) and Intelligence Surveillance and Reconnaissance (ISR) capabilities. The scope of this effort includes the integration, design, and test of the capability enhancements to the P-8A and associated TOC ground support facilities and initial trainers. Integration of these capabilities will be accomplished incrementally, based on the scope of the integration effort. Fleet introduction is planned to be completed in FY16.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605500N: <i>Multi-mssn Maritime Aircraft (MMA) (P-8A)</i> |
|---|---|

As part of the P-8A evolutionary strategy, Increment 3 will focus on attaining cost wise effectiveness for winning major combat operations through FY2020. In order to pace the threat, the Increment 3 will incorporate the following capabilities into the P-8A: MAC, ARCI, updates to the TOC, as well as additional ASW, ASuW and ISR capabilities. These capabilities and other emergent capability requirements will be investigated during the Technology Development phase of Increment 3 for the P-8A and TOC (ground support facility). Increment 3 will capitalize on existing planned P-8A DABs to serve as decision points for entering future phases of work.

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 1,170.527 | 929.240 | 430.643 | - | 430.643 |
| Current President's Budget | 1,138.681 | 929.240 | 622.713 | - | 622.713 |
| Total Adjustments | -31.846 | - | 192.070 | - | 192.070 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | 3.306 | - | | | |
| • SBIR/STTR Transfer | -33.896 | - | | | |
| • Program Adjustments | - | - | 195.210 | - | 195.210 |
| • Section 219 Reprogramming | -1.221 | - | - | - | - |
| • Rate/Misc Adjustments | - | - | -3.140 | - | -3.140 |
| • Congressional General Reductions Adjustments | -0.035 | - | - | - | - |

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 9999: *Congressional Adds*

Congressional Add: *Small Business Technology Insertion*

| | FY 2010 | FY 2011 |
|---|---------|---------|
| Congressional Add Subtotals for Project: 9999 | 12.946 | - |
| Congressional Add Totals for all Projects | 12.946 | - |

Change Summary Explanation

Technical:

Schedule:

Project 2696: Due to additional time required to complete Navy Cost Estimate MS-C, Advanced Procurement (AP) Low Rate Initial Production (LRIP) #2 Contract Award, Production and Deployment and LRIP changed from 3Q FY10 to 4Q. Planned IOC 4Q FY13 is now depicted on the schedule. Due to extended contract

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605500N: <i>Multi-mssn Maritime Aircraft (MMA) (P-8A)</i> |
|---|---|

negotiations delaying contract award, LRIP #1 and LRIP moved to 2Q FY11. On delivery schedule, LRIP 3 changed from 1 aircraft in 3Q FY14 to 2, 2 aircraft in 4Q FY14 to 3, and 2 aircraft in 2Q FY15 to 1.

Project 3181: MS-B, MS-C, Program Design Review, CDR, and IOC removed from schedule due to Baseline Program MS-C DAB approval that future capabilities will be managed as Engineering Change Proposal (ECP). Changed Risk Reduction to Technology Development/Risk Reduction and extended effort to 2Q FY12. Changed Contract Award Increment to Contract Award Integration/Engineering Manufacturing and Development (EMD): Award date moved from 3Q FY11 to 1Q FY12. Changed EMD to Integration/EMD and moved from 3Q FY11 to 1Q FY12. Operational Test and Evaluation, Production and Deployment, and Retrofit Kits added to schedule. Added ECP Decision, Early Operational Capability, and IOC.

Project 3218: Based on current program development, MS-A changed from 2Q FY12 to 3Q FY12, MS-B changed from 3Q FY14 to 2Q FY14 and Preliminary Design Review moved from 2Q FY14 to 3Q FY13: Due to MS-B move from 3Q FY14 to 2Q FY14, Contract Award (EMD) moved from 3Q FY14 to 2Q FY14, EMD moved from 3Q FY14 to 2Q FY14. Added CDR 4Q FY15. Added Integrated Test 3Q FY16.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605500N: <i>Multi-mssn Maritime Aircraft (MMA) (P-8A)</i> | PROJECT 2696: <i>Multi-Mission Maritime Aircraft</i> |
|---|---|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|-----------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 2696: <i>Multi-Mission Maritime Aircraft</i> | 1,116.479 | 923.258 | 544.666 | - | 544.666 | 227.739 | 125.088 | 80.126 | - | 0.000 | 3,017.356 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

The P-8A Multi-mission Maritime Aircraft (MMA) will replace the aging P-3 aircraft. The P-8A program was initiated in response to the Joint Requirements Oversight Council (JROC) validated Mission Needs Statement, "Broad Area Maritime and Littoral Armed Intelligence, Surveillance and Reconnaissance" and the requirements for the program are defined in the MMA Operational Requirements Document/Capability Development Document, validated and approved by JROC on 08 December 2003. A successful Critical Design Review (CDR) was completed in June 2007. In August 2007 the Design Readiness Review was conducted and resulted in approval to obligate funding for the fabrication of the Stage II flight test aircraft. The Interim Program Review (IPR) was completed on 7 April 2009 based on release of Acquisition Decision Memorandum. The first flight of P-8A occurred on 25 Apr 2009.

The primary objectives of SDD are to: perform the system detailed design, develop and produce Systems Integration Labs (SILs), develop and build ground and flight test articles and prepare for Milestone (MS) C. Six flight test aircraft have been built during SDD. These test aircraft will be grouped into two stages based on which phase of the test program the aircraft support. SDD Stage I flight test aircraft (FY06/Qty-3) support Integrated Test and Evaluation (IT&E). This was previously called combined Developmental/Operational Testing (DT/OT). SDD Stage II flight test aircraft (FY09/Qty-3) support the completion of combined DT/OT and Initial Operational Test and Evaluation (IOT&E). The SDD contract includes the development and initial builds of training devices to support IOT&E. P-8A entered the Production and Deployment development phase in the 4th quarter of FY10 after completing the MS-C Defense Acquisition Board.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|--|-----------|---------|---------|
| Title: Continue System Development & Demonstration | 1,048.709 | 869.436 | 496.078 |
| Articles: | 0 | 0 | 0 |
| FY 2010 Accomplishments: SDD phase. Scope of effort included: design, develop, build, and test P-8A aircraft, avionics, mission systems, SILs, wind tunnel test models, ground and flight test articles (SDD Stage I, FY06, Qty-3; SDD Stage II, FY09, Qty-3), other test articles, associated Tactical Operations Center (TOC) updates, and development and initial builds of training devices to support IOT&E. Conduct the periodic cost and schedule performance reviews associated with Earned Value Management (EVM) and prepare and conduct technical, test and logistic reviews. | | | |
| FY 2011 Plans: SDD phase. Scope of effort includes: design, develop, build, and test P-8A aircraft, avionics, mission systems, SILs, wind tunnel test models, ground and flight test articles (SDD Stage I, FY06, Qty-3; SDD Stage II, FY09, Qty-3), other test articles, associated | | | |

UNCLASSIFIED

| | | | | |
|---|---|--|----------------|----------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605500N: <i>Multi-mssn Maritime Aircraft (MMA) (P-8A)</i> | PROJECT 2696: <i>Multi-Mission Maritime Aircraft</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| <p>TOC updates, and development and initial builds of training devices to support IOT&E. Conduct the periodic cost and schedule performance reviews associated with EVM and prepare and conduct technical, test and logistic reviews.</p> <p>FY 2012 Plans: SDD phase. Scope of effort includes: design, develop, build, and test P-8A aircraft, avionics, mission systems, SILs, wind tunnel test models, ground and flight test articles (SDD Stage I, FY06, Qty-3; SDD Stage II, FY09, Qty-3), other test articles, associated TOC updates, and development and initial builds of training devices to support IOT&E. Conduct the periodic cost and schedule performance reviews associated with EVM and prepare and conduct technical, test and logistic reviews.</p> | | | | |
| <p>Title: Continue Engineering and Technical Development and Test for Sys Dev & Demonstration contracts</p> <p align="right">Articles:</p> <p>FY 2010 Accomplishments: Test, Government Furnished Equipment (GFE), Engineering and Technical Development for the SDD contract: Effort included: analysis of contracted deliverables; direct technical and logistic support of system development and delivery; assessment of contractors readiness to proceed in design/development; evaluate contract cost, schedule, and performance; test preparations, provide necessary government furnished equipment and test articles, risk assessment/mitigation; program control; performance status; and plan and prepare for future Milestone/Decision Reviews and develop associated documentation. Modeling & Simulation tools will be developed to assess proposed risk mitigations. Conduct and support IT&E and Live Fire Test and Evaluation (LFT&E).</p> <p>FY 2011 Plans: Test, GFE, Engineering and Technical Development for the SDD contract: Effort included: analysis of contracted deliverables; direct technical and logistic support of system development and delivery; assessment of contractors readiness to proceed in design/development; evaluate contract cost, schedule, and performance; test preparations, provide necessary government furnished equipment and test articles, risk assessment/mitigation; program control; performance status; and plan and prepare for future Milestone/Decision Reviews and develop associated documentation. Modeling & Simulation tools will be developed to assess proposed risk mitigations. Conduct and support IT&E and LFT&E.</p> <p>FY 2012 Plans: Test, GFE, Engineering and Technical Development for the SDD contract: Effort includes: analysis of contracted deliverables; direct technical and logistic support of system development and delivery; assessment of contractors readiness to proceed in design/development; evaluate contract cost, schedule, and performance; test preparations, provide necessary government furnished equipment and test articles, risk assessment/mitigation; program control; performance status; and plan and prepare</p> | | 67.770 0 | 53.822 0 | 48.588 0 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605500N: <i>Multi-mssn Maritime Aircraft (MMA) (P-8A)</i> | PROJECT 2696: <i>Multi-Mission Maritime Aircraft</i> |
|---|---|--|

| | | | |
|--|----------------|----------------|----------------|
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
| for future Milestone/Decision Reviews and develop associated documentation. Modeling & Simulation tools will be developed to assess proposed risk mitigations. Conduct and support IT&E and LFT&E. | | | |
| Accomplishments/Planned Programs Subtotals | 1,116.479 | 923.258 | 544.666 |

C. Other Program Funding Summary (\$ in Millions)

| Line Item | FY 2010 | FY 2011 | FY 2012 | | | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To | |
|---|-----------|-----------|-----------|-------|-----------|-----------|-----------|-----------|-----------|-----------|------------|
| | | | Base | OCO | Total | | | | | Complete | Total Cost |
| • APN1/0193: <i>P-8A MMA</i> | 1,797.352 | 1,990.590 | 2,275.445 | 0.000 | 2,275.445 | 2,770.310 | 3,672.919 | 4,599.174 | 5,646.193 | 2,259.703 | 25,121.913 |
| • APN6/0605: <i>P-8A Initial Spares</i> | 105.738 | 72.422 | 98.307 | 0.000 | 98.307 | 100.987 | 14.527 | 16.974 | 16.815 | 38.574 | 464.344 |
| • MILCON: <i>P-8A MILCON</i> | 5.917 | 0.000 | 31.747 | 0.000 | 31.747 | 0.000 | 123.338 | 288.691 | 114.989 | 0.000 | 564.682 |

D. Acquisition Strategy

The MMA Milestone 0 was approved 22 March 2000 and the resulting Acquisition Decision Memorandum directed P-8A to begin the Concept Exploration phase consisting of an Analysis of Alternatives and industry concept studies. These activities began 3Q/01 and were funded under Program Element 0702207N Project Unit W2737. Approval to enter Component Advance Development (CAD) was attained from the Overarching Integrated Product Team on 18 Jan 2002 and the Milestone Decision Authority Under Secretary of Defense for Acquisition, Technology, & Logistics approved the program Acquisition Strategy on 8 Feb 2002. The CAD was a competitive award to multiple contractors to define alternative MMA concept system architectures and evaluate associated risks and proposed mitigations. Selection of MMA concept and approval to enter SDD phase occurred at MS B decision review on 28 May 2004. The contract was awarded to Boeing on 14 June 2004. The SDD phase is being used to design, develop and test the P-8A system. The P-8A program was initiated in response to the JROC validated MNS, "Broad Area Maritime and Littoral Armed Intelligence, Surveillance and Reconnaissance" and the requirements for the program are defined in the MMA ORD/CDD, validated and approved by JROC on 08 December 2003. P-8A Initial Operational Capability objective is FY 2013.

E. Performance Metrics

Milestone C completed 4th quarter 2010.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605500N: <i>Multi-mssn Maritime Aircraft (MMA) (P-8A)</i> | PROJECT 2696: <i>Multi-Mission Maritime Aircraft</i> |
|---|---|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Award Fee for Primary HW | C/CPAF | Boeing:Seattle, WA | 210.329 | 38.699 | Oct 2010 | 49.399 | Oct 2011 | - | | 49.399 | 4.587 | 303.014 | 303.014 |
| Info. Assurance | WR | NAWC AD:Pax River, MD | 1.381 | 0.450 | Oct 2010 | - | Oct 2011 | - | | - | 0.000 | 1.831 | |
| Primary HW Dev - Boeing | C/CPAF | Boeing:Seattle, WA | 5,037.657 | 822.037 | Oct 2010 | 441.979 | Oct 2011 | - | | 441.979 | 374.730 | 6,676.403 | 6,676.403 |
| Primary HW Dev - SPAWAR | WR | SPAWAR:San Diego, CA | 29.896 | 6.000 | Feb 2011 | 3.000 | Feb 2012 | - | | 3.000 | 0.000 | 38.896 | |
| Sys Eng (gov) | WR | NAWC AD:Pax River, MD | 55.444 | 2.250 | Nov 2010 | 1.700 | Nov 2011 | - | | 1.700 | 0.000 | 59.394 | |
| All other PY Product Dev. | Various | Various:Various | 70.538 | - | | - | | - | | - | 0.000 | 70.538 | |
| Subtotal | | | 5,405.245 | 869.436 | | 496.078 | | - | | 496.078 | 379.317 | 7,150.076 | |

Remarks
The total award fee issued to date was 2.1% of the total budget.

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Int. Log Gov | WR | NAWC AD:Pax River, MD | 34.397 | 5.957 | Nov 2010 | 4.006 | Nov 2011 | - | | 4.006 | 2.125 | 46.485 | |
| Int Log Gov | WR | NAWC TSD:Orlando, FL | 9.574 | 1.900 | Nov 2010 | 0.961 | Nov 2011 | - | | 0.961 | 0.000 | 12.435 | |
| Tech Dev Gov | WR | NAWC AD:Pax River, MD | 70.909 | 3.052 | Nov 2010 | 2.756 | Nov 2011 | - | | 2.756 | 0.000 | 76.717 | |
| All other PY Support Cost | Various | Various:Various | 15.362 | - | | - | | - | | - | 0.000 | 15.362 | |
| Subtotal | | | 130.242 | 10.909 | | 7.723 | | - | | 7.723 | 2.125 | 150.999 | |

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605500N: <i>Multi-mssn Maritime Aircraft (MMA) (P-8A)</i> | PROJECT 2696: <i>Multi-Mission Maritime Aircraft</i> |
|---|---|--|

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Dev T&E - Gov | WR | NAWC AD:Pax River, MD | 41.621 | 16.200 | Nov 2010 | 15.430 | Nov 2011 | - | | 15.430 | 36.333 | 109.584 | |
| GFE & GFI | WR | NAWC AD:Pax River, MD | 39.931 | 18.500 | Nov 2010 | 10.956 | Nov 2011 | - | | 10.956 | 2.000 | 71.387 | |
| LFT&E - Gov | WR | NAWC WD:China Lake | 17.342 | 2.808 | Nov 2010 | - | Nov 2011 | - | | - | 0.000 | 20.150 | |
| Oper Test & Eval | WR | NAWC AD:Pax River, MD | - | - | Nov 2010 | 9.184 | Nov 2011 | - | | 9.184 | 6.680 | 15.864 | |
| All other PY T&E Cost | Various | Various:Various | 5.187 | - | | - | | - | | - | 0.000 | 5.187 | |
| Subtotal | | | 104.081 | 37.508 | | 35.570 | | - | | 35.570 | 45.013 | 222.172 | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Mgmt Suppt Serv (NON-FFRDC) | C/CPFF | RBC INC:Alexandria, VA | 21.943 | 1.743 | Nov 2010 | 0.233 | Nov 2011 | - | | 0.233 | 0.498 | 24.417 | 24.417 |
| Program Mgmt Support | WR | NAWC AD:Pax River, MD | 30.464 | 3.362 | Nov 2010 | 5.062 | Nov 2011 | - | | 5.062 | 6.000 | 44.888 | |
| Travel | Various | NAWC AD:Pax River, MD | 2.771 | 0.300 | Nov 2010 | - | Nov 2011 | - | | - | 0.000 | 3.071 | |
| All other PY Support Cost | Various | Various:Various | 20.060 | - | | - | | - | | - | 0.000 | 20.060 | |
| Subtotal | | | 75.238 | 5.405 | | 5.295 | | - | | 5.295 | 6.498 | 92.436 | |

| | Total Prior Years Cost | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|------------------------|-----------|--------------|-------------|---------------|------------------|------------|--------------------------|
| Project Cost Totals | | 5,714.806 | 923.258 | 544.666 | - | 544.666 | 432.953 | 7,615.683 |

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

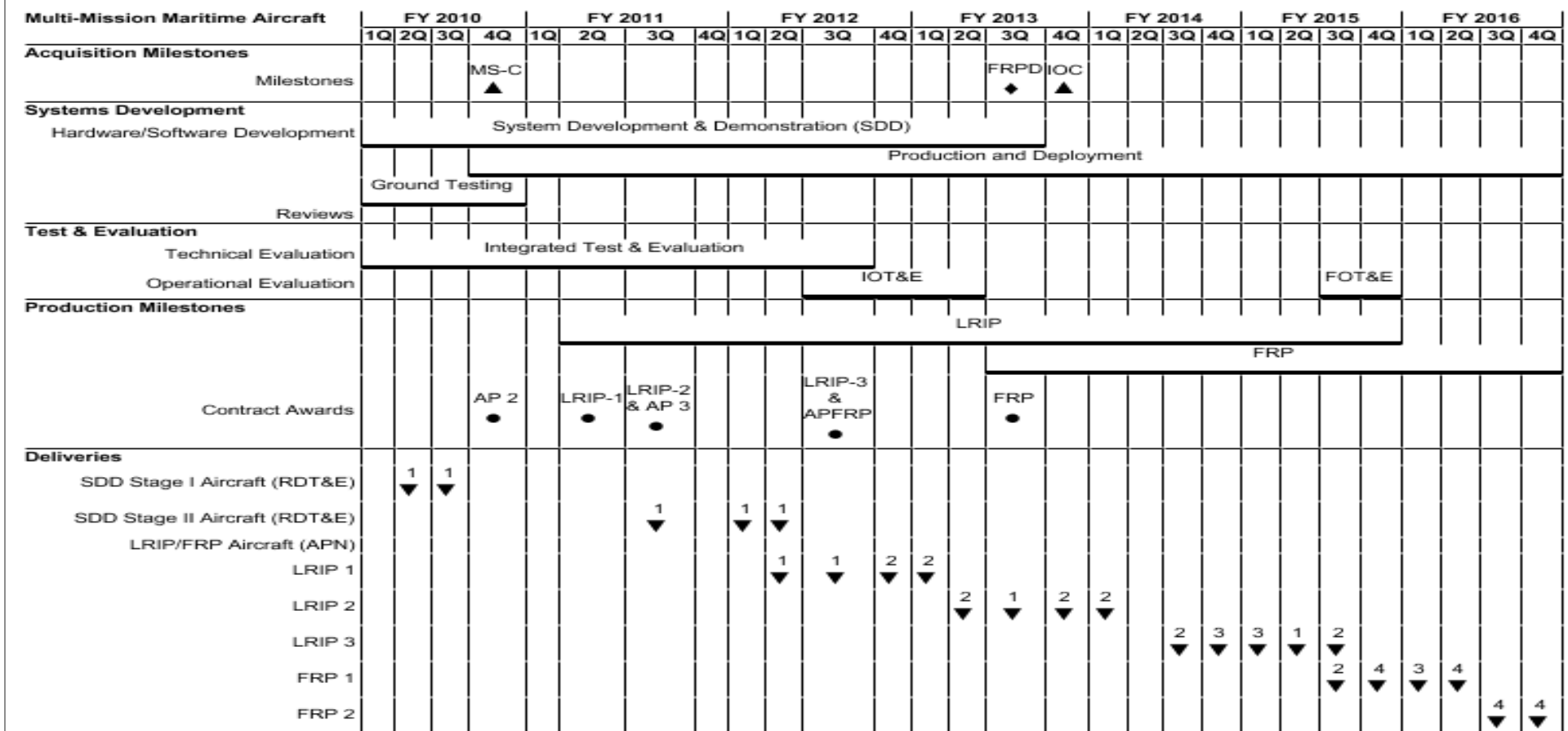
1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0605500N: *Multi-mssn Maritime Aircraft*
 (MMA) (P-8A)

PROJECT

2696: *Multi-Mission Maritime Aircraft*



2012PB - 0605500N - 2696

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605500N: <i>Multi-mssn Maritime Aircraft (MMA) (P-8A)</i> | PROJECT 2696: <i>Multi-Mission Maritime Aircraft</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Multi-Mission Maritime Aircraft | | | | |
| Acquisition Milestones: Milestones: Milestone (MS) C | 4 | 2010 | 4 | 2010 |
| Acquisition Milestones: Milestones: Full Rate Production (FRP) Decision | 3 | 2013 | 3 | 2013 |
| Acquisition Milestones: Milestones: Initial Operating Capability (IOC) | 4 | 2013 | 4 | 2013 |
| Systems Development: Hardware/Software Development: System Development & Demonstration (SDD) | 1 | 2010 | 3 | 2013 |
| Systems Development: Hardware/Software Development: Production and Deployment | 4 | 2010 | 4 | 2016 |
| Systems Development: Hardware/Software Development: Ground Testing | 1 | 2010 | 4 | 2010 |
| Test & Evaluation: Technical Evaluation: Integrated Test & Evaluation (Flight Test) | 1 | 2010 | 3 | 2012 |
| Test & Evaluation: Operational Evaluation: Initial Operational Test and Evaluation (IOT&E) | 3 | 2012 | 2 | 2013 |
| Test & Evaluation: Operational Evaluation: Follow-on Test & Evaluation | 3 | 2015 | 4 | 2015 |
| Production Milestones: Low Rate Initial Production (LRIP) | 2 | 2011 | 4 | 2015 |
| Production Milestones: Full Rate Production (FRP) | 3 | 2013 | 4 | 2016 |
| Production Milestones: Contract Awards: Advance Procurement (AP) LRIP#2 Contract award | 4 | 2010 | 4 | 2010 |
| Production Milestones: Contract Awards: LRIP Lot #1 (Aircraft Procurement Navy (APN)) | 2 | 2011 | 2 | 2011 |
| Production Milestones: Contract Awards: LRIP Lot #2 (APN) and AP LRIP#3 Contract award | 3 | 2011 | 3 | 2011 |
| Production Milestones: Contract Awards: LRIP Lot #3 (APN) and AP FRP Contract award | 3 | 2012 | 3 | 2012 |
| Production Milestones: Contract Awards: FRP Contract Award | 3 | 2013 | 3 | 2013 |
| Deliveries: SDD Stage I Aircraft (RDT&E): SDD Stage I Aircraft (RDT&E) Q2 2010 | 2 | 2010 | 2 | 2010 |

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605500N: <i>Multi-mssn Maritime Aircraft</i> (MMA) (P-8A) | PROJECT 2696: <i>Multi-Mission Maritime Aircraft</i> |

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Deliveries: SDD Stage I Aircraft (RDT&E): SDD Stage I Aircraft (RDT&E) Q3 2010 | 3 | 2010 | 3 | 2010 |
| Deliveries: SDD Stage II Aircraft (RDT&E): SDD Stage II Aircraft (RDT&E) Q3 2011 | 3 | 2011 | 3 | 2011 |
| Deliveries: SDD Stage II Aircraft (RDT&E): SDD Stage II Aircraft (RDT&E) Q1 2012 | 1 | 2012 | 1 | 2012 |
| Deliveries: SDD Stage II Aircraft (RDT&E): SDD Stage II Aircraft (RDT&E) Q2 2012 | 2 | 2012 | 2 | 2012 |
| Deliveries: LRIP 1: LRIP Aircraft (APN) Q2 2012 | 2 | 2012 | 2 | 2012 |
| Deliveries: LRIP 1: LRIP Aircraft (APN) Q3 2012 | 3 | 2012 | 3 | 2012 |
| Deliveries: LRIP 1: LRIP Aircraft (APN) Q4 2012 | 4 | 2012 | 4 | 2012 |
| Deliveries: LRIP 1: LRIP Aircraft (APN) Q1 2013 | 1 | 2013 | 1 | 2013 |
| Deliveries: LRIP 2: LRIP Aircraft (APN) Q2 2013 | 2 | 2013 | 2 | 2013 |
| Deliveries: LRIP 2: LRIP Aircraft (APN) Q3 2013 | 3 | 2013 | 3 | 2013 |
| Deliveries: LRIP 2: LRIP Aircraft (APN) Q4 2013 | 4 | 2013 | 4 | 2013 |
| Deliveries: LRIP 2: LRIP Aircraft (APN) Q1 2014 | 1 | 2014 | 1 | 2014 |
| Deliveries: LRIP 3: LRIP Aircraft (APN) Q3 2014 | 3 | 2014 | 3 | 2014 |
| Deliveries: LRIP 3: LRIP Aircraft (APN) Q4 2014 | 4 | 2014 | 4 | 2014 |
| Deliveries: LRIP 3: LRIP Aircraft (APN) Q1 2015 | 1 | 2015 | 1 | 2015 |
| Deliveries: LRIP 3: LRIP Aircraft (APN) Q2 2015 | 2 | 2015 | 2 | 2015 |
| Deliveries: LRIP 3: LRIP Aircraft (APN) Q3 2015 | 3 | 2015 | 3 | 2015 |
| Deliveries: FRP 1: FRP Aircraft (APN) Q3 2015 | 3 | 2015 | 3 | 2015 |
| Deliveries: FRP 1: FRP Aircraft (APN) Q4 2015 | 4 | 2015 | 4 | 2015 |
| Deliveries: FRP 1: FRP Aircraft (APN) Q1 2016 | 1 | 2016 | 1 | 2016 |
| Deliveries: FRP 1: FRP Aircraft (APN) Q2 2016 | 2 | 2016 | 2 | 2016 |
| Deliveries: FRP 2: FRP Aircraft (APN) Q3 2016 | 3 | 2016 | 3 | 2016 |
| Deliveries: FRP 2: FRP Aircraft (APN) Q4 2016 | 4 | 2016 | 4 | 2016 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605500N: <i>Multi-mssn Maritime Aircraft (MMA) (P-8A)</i> | PROJECT 3181: <i>P-8A Spiral One Development</i> |
|---|---|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 3181: <i>P-8A Spiral One Development</i> | 9.256 | 3.995 | 59.832 | - | 59.832 | 85.379 | 57.952 | 56.941 | 30.690 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

The P-8A Multi-mission Maritime Aircraft (MMA) program is based on an evolutionary acquisition strategy consisting of sequential incremental enhancements to system capabilities that will retain cost-wise effectiveness for winning major combat operations through 2020. In order to pace the threat, Increment 2, the Next Phase of Capabilities (NPC-1), will incorporate the following capabilities into the P-8A: Multi-Static Active Coherent (MAC), Automatic Identification System, Aircraft Rapid Commercial-Off-The-Shelf Insertion (ARCI), updates to the Tactical Operations Center (TOC), as well as additional Anti-Submarine Warfare (ASW), Anti-Surface Warfare (ASuW) and Intelligence Surveillance and Reconnaissance (ISR) capabilities. Program will be executed as an Engineering Change Proposal to the baseline program at the Milestone C Decision.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|--|------------|------------|-------------|
| <p>Title: Perform technology demonstrations and analyses of proposed new capabilities</p> <p style="text-align: right;">Articles:</p> <p>FY 2010 Accomplishments: Commenced development of integration design of new P-8A capabilities.</p> <p>FY 2011 Plans: Continue development of integration design of new P-8A capabilities. Prepare for ECP 1 Program Design Review (PDR).</p> <p>FY 2012 Plans: Continue development of integration design of new P-8A capabilities. Complete ECP 1 PDR & Critical Design Review. Conduct laboratory and preliminary development testing.</p> | 6.903 0 | 0.537 0 | 53.029 0 |
| <p>Title: Conduct technical, cost, risk and logistics analysis of proposed technologies</p> <p style="text-align: right;">Articles:</p> <p>FY 2010 Accomplishments: Conducted technical, cost, risk and logistics analysis of proposed technologies. Provided technical and management support for the development of acquisition documentation. Provided engineering and management of technical development effort.</p> <p>FY 2011 Plans:</p> | 2.353 0 | 3.458 0 | 6.803 0 |

UNCLASSIFIED

| | |
|--|----------------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | DATE: February 2011 |
|--|----------------------------|

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605500N: <i>Multi-mssn Maritime Aircraft (MMA) (P-8A)</i> | PROJECT 3181: <i>P-8A Spiral One Development</i> |
|---|---|--|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| Conduct technical, cost, risk and logistics analysis of proposed technologies. Provide technical and management support for the development of acquisition documentation. Provide engineering and management of technical development effort. | | | |
| <i>FY 2012 Plans:</i> Conduct technical, cost, risk and logistics analysis of proposed technologies. Provide technical and management support for the development of acquisition documentation. Provide engineering and management of technical development effort. | | | |
| Accomplishments/Planned Programs Subtotals | 9.256 | 3.995 | 59.832 |

C. Other Program Funding Summary (\$ in Millions)

| Line Item | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--------------------------------|---------|---------|-----------------|----------------|------------------|---------|---------|---------|---------|---------------------|------------|
| • APN5/0586: <i>P-8 Series</i> | 0.000 | 0.000 | 2.930 | 0.000 | 2.930 | 5.305 | 7.178 | 21.634 | 22.005 | 3,965.041 | 4,024.093 |

D. Acquisition Strategy
The P-8A MMA program is based on an evolutionary acquisition strategy consisting of sequential incremental enhancements to system capabilities that will retain cost-wise effectiveness for winning major combat operations through 2020. In order to pace the threat, the NPC-1 will incorporate the following capabilities into the P-8A: MAC, ARCI, updates to the TOC, as well as additional ASW, ASuW and ISR capabilities. Fleet introduction is planned to be completed in FY16.

E. Performance Metrics
Approval of Increment 2 ECP(s).

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605500N: <i>Multi-mssn Maritime Aircraft (MMA) (P-8A)</i> | PROJECT 3181: <i>P-8A Spiral One Development</i> |
|---|---|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Primary HW Dev - Risk Reduction/Preliminary Design II | C/CPFF | Boeing:Seattle, WA | 1.975 | - | | 5.291 | Nov 2011 | - | | 5.291 | 0.000 | 7.266 | 7.266 |
| Primary HW Dev - Integration/EMD | C/CPAF | Boeing:Seattle, WA | - | - | | 37.763 | Dec 2011 | - | | 37.763 | 148.736 | 186.499 | 186.499 |
| Primary HW Dev - Integration EMD Award Fee | C/CPAF | Boeing:Seattle, WA | - | - | | 3.596 | Dec 2011 | - | | 3.596 | 6.971 | 10.567 | 10.567 |
| Sys Eng (gov) | WR | NAWC AD:Pax River, MD | 8.088 | 0.537 | Nov 2010 | 6.379 | Nov 2011 | - | | 6.379 | 23.565 | 38.569 | |
| All other PY Product Dev | Various | Various:Various | 7.918 | - | | - | | - | | - | 0.000 | 7.918 | 7.918 |
| Subtotal | | | 17.981 | 0.537 | | 53.029 | | - | | 53.029 | 179.272 | 250.819 | |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Integrated Logistics Sup | WR | NAWC AD:Pax River, MD | 0.727 | 0.600 | Nov 2010 | 0.668 | Nov 2011 | - | | 0.668 | 4.896 | 6.891 | |
| All other PY Support | Various | Various:Various | 0.542 | - | | - | | - | | - | 0.000 | 0.542 | |
| Subtotal | | | 1.269 | 0.600 | | 0.668 | | - | | 0.668 | 4.896 | 7.433 | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Dev Test & Eval | WR | NAWC AD:Pax River, MD | 0.363 | 1.500 | Nov 2010 | 2.295 | Nov 2011 | - | | 2.295 | 13.666 | 17.824 | |
| GFE/GFI/GFP | WR | NAWC AD:Pax River, MD | - | 0.050 | Nov 2010 | 1.072 | Nov 2011 | - | | 1.072 | 14.075 | 15.197 | |
| Oper Test & Eval | WR | NAWC AD:Pax River, MD | - | - | | - | | - | | - | 5.573 | 5.573 | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY
 1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE
 PE 0605500N: *Multi-mssn Maritime Aircraft (MMA) (P-8A)*

PROJECT
 3181: *P-8A Spiral One Development*

| P-8A Spiral One Development | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | | | | | |
|-------------------------------|--|----|----|----|----------------|----|----|----|-------------------|----|----|----|---------|----|----|----|-------------------------|----|----|----|-----------------|----|----|----|----------------------|----|----|----|--|--|--|--|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | | | | |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Milestones | | | | | ECP Decision ◆ | | | | | | | | | | | | EOC ▲ | | | | | | | | IOC ▲ | | | | | | | |
| Systems Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Acquisition Phases | Technology Development (TD)/Risk Reduction | | | | | | | | Integration/EMD | | | | | | | | Production & Deployment | | | | | | | | | | | | | | | |
| Reviews | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test & Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Technical Evaluation | | | | | | | | | DT/IT | | | | | | | | | | | | | | | | | | | | | | | |
| Operational Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | OT&E | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contract Awards | APTR ● | | | | | | | | INTEGRATION/EMD ● | | | | | | | | | | | | RETROFIT KITS ● | | | | | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | Kit Deliveries (APN) | | | | | | | |

2012PB - 0605500N - 3181

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605500N: <i>Multi-mssn Maritime Aircraft (MMA) (P-8A)</i> | PROJECT 3181: <i>P-8A Spiral One Development</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| <i>P-8A Spiral One Development</i> | | | | |
| Acquisition Milestones: Milestones: Engineering Change Proposal (ECP) Decision | 4 | 2010 | 4 | 2010 |
| Acquisition Milestones: Milestones: Early Operational Capability (EOC) | 3 | 2014 | 3 | 2014 |
| Acquisition Milestones: Milestones: Initial Operational Capability (IOC) | 1 | 2016 | 1 | 2016 |
| Systems Development: Acquisition Phases: Technology Development (TD)/Risk Reduction | 2 | 2010 | 2 | 2012 |
| Systems Development: Acquisition Phases: Integration/EMD | 1 | 2012 | 2 | 2015 |
| Systems Development: Acquisition Phases: Production & Deployment | 3 | 2014 | 4 | 2016 |
| Test & Evaluation: Technical Evaluation: Developmental Testing (Integration Testing) | 1 | 2012 | 2 | 2015 |
| Test & Evaluation: Operational Evaluation: Operational Test & Evaluation (OT&E) | 4 | 2014 | 2 | 2015 |
| Production Milestones: Contract Awards: Contract Award - Acoustics Processor Technology Refreshment (APTR) | 2 | 2010 | 2 | 2010 |
| Production Milestones: Contract Awards: Contract Award Integration/ Engineering, Manufacturing, and Development (EMD) | 1 | 2012 | 1 | 2012 |
| Production Milestones: Contract Awards: Retrofit Kits | 3 | 2014 | 3 | 2014 |
| Deliveries: Kit Deliveries (APN) | 1 | 2016 | 4 | 2016 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605500N: <i>Multi-mssn Maritime Aircraft (MMA) (P-8A)</i> | PROJECT 3218: <i>P-8A Spiral 2 Development</i> |
|---|---|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 3218: <i>P-8A Spiral 2 Development</i> | - | 1.987 | 18.215 | - | 18.215 | 21.433 | 83.809 | 137.820 | 171.572 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

The P-8A Multi-mission Maritime Aircraft (MMA) program is based on an evolutionary acquisition strategy consisting of sequential increments that will retain cost-wise effectiveness for winning major combat operations through 2020. In order to pace the threat, Increment 3 may include the following capabilities: Net-Ready Key Performance Parameters (KPP) implementation, integration of a network enabled Anti-Surface Warfare (ASuW) weapon, Survivability Upgrades, Precision Targeting improvements, and Aircraft Rapid Commercial-Off-The-Shelf Insertion (ARCI) Capabilities, as well as additional Anti-Submarine Warfare (ASW), ASuW and Intelligence Surveillance and Reconnaissance (ISR) capabilities. These capabilities and other emergent capability requirements will be investigated during the Technology Development phase of Increment 3 for the P-8A and Tactical Operations Center (TOC)(ground support facility).

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|--|---------|------------|-------------|
| <p>Title: Perform technology demonstrations and analyses of proposed new capabilities</p> <p align="right">Articles:</p> <p>FY 2011 Plans: Multiple studies and analyses of the proposed new P-8A capabilities to ascertain the most affordable, military useful, most mature technological solution.</p> <p>FY 2012 Plans: Multiple studies and analyses of the proposed new P-8A capabilities to ascertain the most affordable, military useful, most mature technological solution. Initiate design for integrating new capabilities into P-8A TOC.</p> | - | 0.496 0 | 14.538 0 |
| <p>Title: Conduct technical, cost, risk and logistics analysis of proposed technologies</p> <p align="right">Articles:</p> <p>FY 2011 Plans: Conduct technical, cost, risk and logistics analysis of proposed technologies. Evaluate system requirements through cost/performance trade-off analysis. Provide technical and management support for the development of acquisition documentation. Provide engineering and management of technical development effort.</p> <p>FY 2012 Plans:</p> | - | 1.491 0 | 3.677 0 |

UNCLASSIFIED

| | |
|--|----------------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | DATE: February 2011 |
|--|----------------------------|

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605500N: <i>Multi-mssn Maritime Aircraft (MMA) (P-8A)</i> | PROJECT 3218: <i>P-8A Spiral 2 Development</i> |
|---|---|--|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|---|----------------|----------------|----------------|
| Conduct technical, cost, risk and logistics analysis of proposed technologies. Evaluate system requirements through cost/performance trade-off analysis. Provide technical and management support for the development of acquisition documentation. Provide engineering and management of technical development effort. | | | |
| Accomplishments/Planned Programs Subtotals | - | 1.987 | 18.215 |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

The P-8A MMA program is based on an evolutionary acquisition strategy consisting of sequential increments that will retain cost-wise effectiveness for winning major combat operations through 2020. In order to pace the threat, Increment 3 may include the following capabilities: Net-Ready KPP implementation, integration of a network enabled ASuW weapon, Survivability Upgrades, Precision Targeting improvements, and ARCI Capabilities, as well as additional ASW, ASuW and ISR capabilities. The scope of this effort includes the integration design and test of capability enhancements to the P-8A. Fleet introduction is planned to be accomplished incrementally based on the scope of change, with a planned completion in FY19. These capabilities and other emergent capability requirements will be investigated during the Technology Development phase of Increment 3 for the P-8A and TOC (ground support facility).

E. Performance Metrics

Milestone A to be completed 3rd quarter 2012; Milestone B to be completed 2nd quarter 2014.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605500N: <i>Multi-mssn Maritime Aircraft (MMA) (P-8A)</i> | PROJECT 3218: <i>P-8A Spiral 2 Development</i> |
|---|---|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Primary Hdw Dev - Technology Development | C/CPFF | TBD:TBD | - | - | | 10.317 | Jan 2012 | - | | 10.317 | 17.950 | 28.267 | 28.267 |
| Primary HW Dev - EMD | C/CPFF | TBD:TBD | - | - | | - | | - | | - | 348.098 | 348.098 | 348.098 |
| Sys Eng (gov) | WR | NAWC AD:Pax River, MD | - | 0.496 | Mar 2011 | 4.221 | Nov 2011 | - | | 4.221 | 123.374 | 128.091 | |
| Subtotal | | | - | 0.496 | | 14.538 | | - | | 14.538 | 489.422 | 504.456 | |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Integrated Logistics Sup | WR | NAWC AD:Pax River, MD | - | - | | 0.400 | Feb 2012 | - | | 0.400 | 34.350 | 34.750 | |
| Studies & Analysis | C/CPFF | TBD:TBD | - | 0.187 | Mar 2011 | 0.877 | Dec 2011 | - | | 0.877 | 0.891 | 1.955 | 1.955 |
| Subtotal | | | - | 0.187 | | 1.277 | | - | | 1.277 | 35.241 | 36.705 | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Dev Test & Eval | WR | NAWC AD:Pax River, MD | - | - | | 0.400 | Dec 2011 | - | | 0.400 | 91.561 | 91.961 | |
| GFE/GFI/GFP | WR | NAWC AD:Pax River, MD | - | - | | - | | - | | - | 18.341 | 18.341 | |
| Oper Test & Eval | WR | NAWC AD:Pax River, MD | - | - | | - | | - | | - | 44.000 | 44.000 | |
| Test Assets | WR | NAWC AD:Pax River, MD | - | - | | - | | - | | - | 23.000 | 23.000 | |
| Subtotal | | | - | - | | 0.400 | | - | | 0.400 | 176.902 | 177.302 | |

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605500N: <i>Multi-mssn Maritime Aircraft (MMA) (P-8A)</i> | PROJECT 3218: <i>P-8A Spiral 2 Development</i> |
|---|---|--|

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | Target Value of Contract | |
|--------------------------------------|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|--------------------------|--------------------------|
| | | | | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Eng Tech Serv (NON-FFRDC) | C/CPFF | RBC:Alexandria, VA | - | 0.228 | Mar 2011 | 0.560 | Dec 2011 | - | | 0.560 | 19.066 | 19.854 | 19.854 |
| Mgmt Suppt Serv (NON-FFRDC) | C/CPFF | RBC:Alexandria, VA | - | 0.794 | Mar 2011 | 0.840 | Dec 2011 | - | | 0.840 | 28.598 | 30.232 | 30.232 |
| Program Mgmt Support | WR | NAWC AD:Pax River, MD | - | 0.182 | Mar 2011 | 0.500 | Nov 2011 | - | | 0.500 | 4.300 | 4.982 | |
| Travel | WR | NAWC AD:Pax River, MD | - | 0.100 | Mar 2011 | 0.100 | Nov 2011 | - | | 0.100 | 3.428 | 3.628 | |
| Subtotal | | | - | 1.304 | | 2.000 | | - | | 2.000 | 55.392 | 58.696 | |
| Project Cost Totals | | | - | 1.987 | | 18.215 | | - | | 18.215 | 756.957 | 777.159 | |

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE

PE 0605500N: *Multi-mssn Maritime Aircraft (MMA) (P-8A)*

PROJECT

3218: *P-8A Spiral 2 Development*

| P-8A Spiral 2 Development | FY 2010 | | | | FY 2011 | | | | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | |
|-------------------------------|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|---------|----|----|----|
| | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q | 1Q | 2Q | 3Q | 4Q |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Systems Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reviews | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test & Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contract Awards | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2012PB - 0605500N - 3218

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605500N: <i>Multi-mssn Maritime Aircraft (MMA) (P-8A)</i> | PROJECT 3218: <i>P-8A Spiral 2 Development</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| <i>P-8A Spiral 2 Development</i> | | | | |
| Acquisition Milestones: Milestones: Increment 3 MS A | 3 | 2012 | 3 | 2012 |
| Acquisition Milestones: Milestones: Increment 3 MS B | 2 | 2014 | 2 | 2014 |
| Systems Development: Technology Development | 3 | 2012 | 4 | 2014 |
| Systems Development: Contract Award (EMD) | 2 | 2014 | 4 | 2016 |
| Systems Development: Reviews: Preliminary Design Review (PDR) | 3 | 2013 | 3 | 2013 |
| Systems Development: Reviews: Critical Design Review (CDR) | 4 | 2015 | 4 | 2015 |
| Test & Evaluation: Integrated Test (IT) | 3 | 2016 | 4 | 2016 |
| Production Milestones: Contract Awards: Contract Award - Technology Devevelopment | 3 | 2012 | 3 | 2012 |
| Production Milestones: Contract Awards: Engineering Manufacturing & Development (EMD) | 2 | 2014 | 2 | 2014 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0605500N: <i>Multi-mssn Maritime Aircraft (MMA) (P-8A)</i> | PROJECT 9999: <i>Congressional Adds</i> |
|---|---|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 9999: <i>Congressional Adds</i> | 12.946 | - | - | - | - | - | - | - | - | 0.000 | 12.946 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Congressional Add.

B. Accomplishments/Planned Programs (\$ in Millions)

| | FY 2010 | FY 2011 |
|--|---------|---------|
| Congressional Add: Small Business Technology Insertion | 12.946 | - |
| FY 2010 Accomplishments: The Small Business Technology Insertion activities funded innovative and creative small business efforts that allow the P-8 to keep pace with the rapid pace of changing technology. | | |
| Congressional Adds Subtotals | 12.946 | - |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

Not required for Congressional Adds.

E. Performance Metrics

Not required for Congressional Adds.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | | | | R-1 ITEM NOMENCLATURE | | | | | | | |
|---|----------------|----------------|---------------------|------------------------------|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | PE 0204201N: CG(X) | | | | | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| Total Program Element | 21.439 | - | - | - | - | - | - | - | - | 0.000 | 21.439 |
| 3106: <i>Combat System Integration</i> | 3.895 | - | - | - | - | - | - | - | - | 0.000 | 3.895 |
| 3107: <i>CG(X) Development</i> | 17.544 | - | - | - | - | - | - | - | - | 0.000 | 17.544 |

A. Mission Description and Budget Item Justification

This Program Element (PE) provided funds for development of CG(X), the CG(X) program has been cancelled. The CG(X) was focused on providing multi-mission capabilities as the follow-on to the CG-47 class as they reach the end of their service life.

The CG(X) program has been canceled due to a projected high cost and risk in its combat system technology and design. Instead of procuring CG(X), the Navy is considering other options including maturing the air and missile defense radar program and using technologies from other similar kinds of ships such as DDG-1000 and DDG-51 destroyers.

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 45.400 | - | - | - | - |
| Current President's Budget | 21.439 | - | - | - | - |
| Total Adjustments | -23.961 | - | - | - | - |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | -23.895 | - | | | |
| • SBIR/STTR Transfer | -0.496 | - | | | |
| • Congressional General Reductions Adjustments | 0.430 | - | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0204201N: <i>CG(X)</i> | PROJECT 3106: <i>Combat System Integration</i> |
|---|---|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 3106: <i>Combat System Integration</i> | 3.895 | - | - | - | - | - | - | - | - | 0.000 | 3.895 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

This project encompassed efforts for the integration of the CG(X) Combat System, C4I, Air, and Ship systems including materiel analysis, technology development, and integration of the Mission Systems into the CG(X) Mission System. Integration efforts included communications, electronics, air, command and control, interface requirements, definition, system integration, and test and evaluation.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|---|------------|---------|---------|
| <p>Title: Acquisition and Requirements Documentation</p> <p align="right">Articles:</p> | 2.200 0 | - | - |
| <p>FY 2010 Accomplishments: Conducted feasibility analysis to evaluate capabilities and cost based on requirements allocation. Defined and completed FY 2010 National Defense Authorization Act requirements to include a technology roadmap for surface combatants.</p> | | | |
| <p>Title: Technology Risk Reduction</p> <p align="right">Articles:</p> | 1.100 0 | - | - |
| <p>FY 2010 Accomplishments: Conducted risk reduction for technology elements in total ship system integration, including technology maturity and integration risks.</p> | | | |
| <p>Title: Total Ship Systems Engineering</p> <p align="right">Articles:</p> | 0.595 0 | - | - |
| <p>FY 2010 Accomplishments: Supported Total Ship Systems Engineering (TSSE) with maturation of mission system architecture functional allocation and integration requirements to support materiel solution analysis, including total ship system capabilities.</p> | | | |
| Accomplishments/Planned Programs Subtotals | 3.895 | - | - |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

N/A

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0204201N: <i>CG(X)</i> | PROJECT 3106: <i>Combat System Integration</i> |

E. Performance Metrics

N/A

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0204201N: <i>CG(X)</i> | PROJECT 3107: <i>CG(X) Development</i> |
|---|---|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 3107: <i>CG(X) Development</i> | 17.544 | - | - | - | - | - | - | - | - | 0.000 | 17.544 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

This project encompassed efforts for total ship system development. These development efforts included materiel analysis, technology development, systems engineering, computer program development, interface design, technical documentation, and system testing to ensure a fully functional CG(X) system design.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|--|-------------|---------|---------|
| <p>Title: Acquisition & Requirements Development</p> <p align="right">Articles:</p> <p>FY 2010 Accomplishments: Developed requirements, capabilities, cost, and technical feasibility of the total ship system to support materiel solution analysis. Refined program documentation to support CG(X) decision reviews (Gate and Milestone). Defined and completed FY 2010 National Defense Authorization Act requirements to include a technology roadmap for surface combatants.</p> | 13.770 0 | - | - |
| <p>Title: Technology Risk Reduction</p> <p align="right">Articles:</p> <p>FY 2010 Accomplishments: Conducted risk reduction for Technology Elements including technology maturity and manufacturing feasibility in support of materiel solution analysis.</p> | 3.774 0 | - | - |
| Accomplishments/Planned Programs Subtotals | 17.544 | - | - |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | | | | R-1 ITEM NOMENCLATURE | | | | | | | |
|---|----------------|----------------|---------------------|------------------------------|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | PE 0204202N: <i>DDG-1000</i> | | | | | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| Total Program Element | 507.742 | 549.241 | 261.604 | - | 261.604 | 340.009 | 168.344 | 164.089 | 100.335 | Continuing | Continuing |
| 2464: <i>DD(X) Sys Design, Dev & Integration</i> | 396.331 | 441.117 | 215.015 | - | 215.015 | 331.166 | 149.550 | 164.089 | 100.335 | Continuing | Continuing |
| 4009: <i>Advanced Gun System (AGS) on DD(X)</i> | 107.427 | 108.124 | 46.589 | - | 46.589 | 8.843 | 18.794 | - | - | 0.000 | 289.777 |
| 9999: <i>Congressional Adds</i> | 3.984 | - | - | - | - | - | - | - | - | 0.000 | 3.984 |

A. Mission Description and Budget Item Justification

This Program Element (PE) provides funds for development of the DDG 1000 Class of U.S. Navy surface combatants. The mission of the DDG 1000 class is to provide credible independent forward presence/deterrence and operate as an integral part of Naval, Joint or Combined Maritime Forces. DDG 1000 will provide advanced land attack capability in support of the ground campaign and contribute to Naval, Joint or Combined battlespace dominance in littoral operations. DDG 1000 will establish and maintain surface and sub-surface superiority, provide local air defense, and incorporate signature reduction to operate in all threat environments. DDG 1000 will have seamless Joint Interoperability to integrate all source information for battlespace awareness and weapons direction.

In accordance with the recent Nunn McCurdy recertification the Department plans to request an FY 2011 \$170M reprogramming from this RDT&E,N line (0204202N) into the DDG-1000 SCN line (2119).

The following Congressional add is funded in this Program Element:
Floating Area Network (FAN)

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0204202N: <i>DDG-1000</i> |
|---|--|

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 524.269 | 549.241 | 337.564 | - | 337.564 |
| Current President's Budget | 507.742 | 549.241 | 261.604 | - | 261.604 |
| Total Adjustments | -16.527 | - | -75.960 | - | -75.960 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | -3.983 | - | | | |
| • SBIR/STTR Transfer | -18.263 | - | | | |
| • Program Adjustments | - | - | -72.523 | - | -72.523 |
| • Section 219 Reprogramming | -2.236 | - | - | - | - |
| • Rate/Misc Adjustments | - | - | -3.437 | - | -3.437 |
| • Congressional General Reductions Adjustments | -0.045 | - | - | - | - |
| • Congressional Add Adjustments | 8.000 | - | - | - | - |

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 9999: *Congressional Adds*

Congressional Add: *Floating Area Network (FAN) Installation Of Wirele*

Congressional Add Subtotals for Project: 9999

Congressional Add Totals for all Projects

| | FY 2010 | FY 2011 |
|--|---------|---------|
| | 3.984 | - |
| | 3.984 | - |
| | 3.984 | - |

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

UNCLASSIFIED

| | | | | | | | | | | | |
|---|----------------|----------------|---------------------|--|----------------------|----------------|----------------|--|----------------|-------------------------|-------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | | | | | | | DATE: February 2011 | | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | R-1 ITEM NOMENCLATURE PE 0204202N: <i>DDG-1000</i> | | | | PROJECT 2464: <i>DD(X) Sys Design, Dev & Integration</i> | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| 2464: <i>DD(X) Sys Design, Dev & Integration</i> | 396.331 | 441.117 | 215.015 | - | 215.015 | 331.166 | 149.550 | 164.089 | 100.335 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

This project encompasses DDG 1000 development efforts required to deliver the Flight I DDG 1000 Class Ships. Major efforts include software requirements analysis, architectural and design code and unit testing, integration, qualification testing, and Independent Verification and Validation (IV&V) for software releases 5-6; hull form testing at Naval Surface Warfare Center/Carderock; communication and sensor aperture cosine and electromagnetic interference risk reductions testing for critical arrays; execution of Integrated Power Systems (IPS) and ship control system testing and integration; and development of Tomahawk Weapon Control System software. Funding for previous years is included in PE 0604300N.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|--|----------------|----------------|----------------|
| Title: System Engineering, Development and Testing | 396.331 | 441.117 | 215.015 |
| Articles: | 0 | 0 | 0 |
| Description: System Engineering, Development and Testing | | | |
| FY 2010 Accomplishments: Development of the DDG 1000 Flight 1 software, Commercial Off the Shelf/Government Off the Shelf (COTS/GOTS) software acquisition, code and unit testing, integration, qualification testing, and Independent Verification and Validation (IV&V). Development of a total system software architecture that defines the relationships and interfaces among the software segments, elements, components and/or configuration items using an incremental release process (Software (SW) Releases 5-6). Conducted the following events for the remaining software releases: Software Release 5-completed Test Readiness Review (TRR) and System Acceptance Testing (SAT). Software Release 6 - conducted SW Preliminary Design Review (S-PDR) and SW Critical Design Review (S-CDR). Conducted developmental software test planning, test data analysis and reporting in accordance with the DDG 1000 TEMP. Performed total ship system design analysis. Performed systems engineering; developed and integrated into the DDG 1000 System an Electric Ship (ES) system. The following efforts occurred in FY 10: Continued to integrate Next Generation Command and Control Processor (NGC2P) and continued to complete hardware and software development with formal testing through Software Release 6. Continued to develop, test and integrate the Common Display System (CDS) consoles and medium/large screen displays. | | | |
| FY 2011 Plans: Software Release 6 will enter into the Design, Code, Test and Integration phase and begin Software Integration and Test (SWIT) activities. The following efforts will continue in FY11: Conduct developmental software test planning, conduct test data | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0204202N: <i>DDG-1000</i> | PROJECT 2464: <i>DD(X) Sys Design, Dev & Integration</i> |
|---|--|--|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|--|---------|---------|---------|
| <p>analysis and reporting in accordance with the DDG 1000 TEMP. Perform total ship system design analysis. Perform systems engineering, develop, and fully integrate into the DDG 1000 System an Electric Ship (ES) system for DDG 1000. Integrate Next Generation Command and Control Processor (NGC2P). Continue Combat System Elements and Hull Mechanical & Electrical (HM&E) integration, including hardware and software development through Software Release 6. Develop, test and integrate the Common Display System (CDS) consoles and medium/large screen displays. Continue hull form testing at NSWC/Carderock. Execution of IPS and Ship Control System (SCS) testing and integration at Naval Surface Warfare Center/Philadelphia. Conduct communication and sensor aperture cosine and electromagnetic interference risk reduction testing for critical arrays at the Wallops Island Test Facility. Develop Tomahawk Weapons Control System software. Conduct developmental testing and operation evaluation in accordance with TEMP. Conduct Live Fire Testing & Vulnerability Analysis in accordance with TEMP. Conduct signature range Non-Recurring Engineering (NRE) to upgrade ranges to support DDG 1000 test and evaluation. Initiate X-Band Multi-Function Radar (MFR) modification due to removal of S-Band Volume Search Radar (VSR) during the Nunn McCurdy recertification.</p> <p><i>FY 2012 Plans:</i> Development of Total Ship Computing Environment (TSCE) Software Release 6 is scheduled to complete. TSCE Software Spiral 1 will enter into Design, Code, Test and integration. Continuation of propulsion, power and ship control system land based testing at the Naval Surface Warfare Center/Philadelphia. Completion of non-recurring engineering and upgrades to range signature and calibration measurement facilities is scheduled. Perform planning, preparation and pretest predictions for TEMP Integrated Testing at Wallops Island and Self Defense Test Ship and associated MOE Test Beds. Initiate procurements of test articles for Initial Operational Test and Evaluation (IOT&E), including Long Range Land Attack Projectile (LRLAP)/Shapes, SM2 and ESSMs. Perform Airex and Undex vulnerability assessments, general recoverability assessments and engineering survivability assessments in support of TEMP Live Fire Test and Evaluation. Continue X-Band Multi-Function Radar (MFR) modification due to removal of S-Band Volume Search Radar (VSR) during the Nunn McCurdy recertification.</p> | | | |
| Accomplishments/Planned Programs Subtotals | 396.331 | 441.117 | 215.015 |

C. Other Program Funding Summary (\$ in Millions)

| Line Item | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|------------------------------|-----------|---------|-----------------|----------------|------------------|---------|---------|---------|---------|---------------------|------------|
| • SCN/ 2119: <i>DDG 1000</i> | 1,378.532 | 186.312 | 453.727 | 0.000 | 453.727 | 433.619 | 223.694 | 272.592 | 0.000 | 0.000 | 2,948.476 |

D. Acquisition Strategy
A revised acquisition strategy has been determined that supports the DDG-1000/DDG-51 restart shipyard allocation workload MOAs. Execution of the MOAs will shift primary construction of all three DDG-1000 class ships to Bath Iron Works (BIW). Award of the DDG 1001/1002 to BIW is targeted for 2nd quarter FY11.

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0204202N: <i>DDG-1000</i> | PROJECT 2464: <i>DD(X) Sys Design, Dev & Integration</i> |

E. Performance Metrics

Successfully achieve Milestone C. Successfully achieve Initial Operational Capability. Successfully complete Operation Test Readiness Review. Successfully complete Developmental Test/Operational Test.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0204202N: <i>DDG-1000</i> | PROJECT 2464: <i>DD(X) Sys Design, Dev & Integration</i> |
|---|--|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Ship Integration Development Phase IV | SS/CPAF | Raytheon:Tewksbury MA | 326.021 | 397.202 | Oct 2010 | 161.615 | Dec 2011 | - | | 161.615 | Continuing | Continuing | Continuing |
| Ship Integration Development | SS/CPFF | Converteam:Pittsburgh, PA | - | 6.250 | Jan 2011 | 6.000 | Dec 2011 | - | | 6.000 | Continuing | Continuing | Continuing |
| Subtotal | | | 326.021 | 403.452 | | 167.615 | | - | | 167.615 | | | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Live Fire Test and Evaluation | Various | Various:Various | 1.100 | - | | - | | - | | - | 0.000 | 1.100 | |
| Live Fire Test and Evaluation | WR | NSWC:Bethesda, MD | 0.700 | - | | - | | - | | - | 0.000 | 0.700 | |
| Live Fire Test and Evaluation | C/PIF | TBD:TBD | - | 2.300 | Jan 2011 | 4.500 | Dec 2011 | - | | 4.500 | Continuing | Continuing | Continuing |
| Test & Evaluation | SS/CPFF | Raytheon:Portsmouth, RI | 7.200 | 10.030 | Oct 2010 | 19.337 | Dec 2011 | - | | 19.337 | Continuing | Continuing | Continuing |
| Test & Evaluation | C/PIF | Alion:Washington, DC | 0.300 | - | | - | | - | | - | 0.000 | 0.300 | |
| Test & Evaluation | SS/CPFF | JHU/APL:Laurel, MD | 0.200 | 0.100 | Jan 2011 | 0.500 | Dec 2011 | - | | 0.500 | Continuing | Continuing | Continuing |
| Test & Evaluation | C/PIF | TBD:TBD | - | 0.800 | Jan 2011 | 0.900 | Dec 2011 | - | | 0.900 | Continuing | Continuing | Continuing |
| Test & Evaluation | WR | NSWC:Dahlgren, VA | 1.560 | 1.280 | Oct 2010 | 0.860 | Dec 2011 | - | | 0.860 | Continuing | Continuing | Continuing |
| Test & Evaluation | WR | NSWC:Bethesda, MD | 4.700 | 2.510 | Oct 2010 | 2.150 | Dec 2011 | - | | 2.150 | Continuing | Continuing | Continuing |
| Test & Evaluation | WR | NSWC:Port Hueneme, CA | 1.075 | 0.939 | Nov 2010 | 4.000 | Dec 2011 | - | | 4.000 | Continuing | Continuing | Continuing |
| Test & Evaluation | WR | NRL:Washington, DC | 0.800 | 0.325 | Nov 2010 | 0.350 | Dec 2011 | - | | 0.350 | Continuing | Continuing | Continuing |
| Test & Evaluation | WR | NAWC:China Lake, CA | 1.200 | 1.870 | Nov 2010 | 1.200 | Dec 2011 | - | | 1.200 | Continuing | Continuing | Continuing |
| Test & Evaluation | WR | SCSC:Wallops, Is, VA | 2.286 | 3.841 | Feb 2011 | 0.503 | Dec 2011 | - | | 0.503 | Continuing | Continuing | Continuing |
| Test & Evaluation | WR | COTF:Norfolk, VA. | 1.364 | 1.270 | Nov 2010 | 2.400 | Dec 2011 | - | | 2.400 | Continuing | Continuing | Continuing |
| Subtotal | | | 22.485 | 25.265 | | 36.700 | | - | | 36.700 | | | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0204202N: <i>DDG-1000</i> | PROJECT 2464: <i>DD(X) Sys Design, Dev & Integration</i> |
|---|--|--|

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Government Engineering Services | WR | NSWC:Dahlgren VA | 4.581 | 2.200 | Oct 2010 | 2.200 | Dec 2011 | - | | 2.200 | Continuing | Continuing | Continuing |
| Government Engineering Services | WR | NSWC:Philadelphia PA | 8.488 | - | | - | | - | | - | 0.000 | 8.488 | |
| Government Engineering Services | WR | NSWC:Port Hueneme CA | 2.091 | 1.000 | Nov 2010 | 1.000 | Dec 2011 | - | | 1.000 | Continuing | Continuing | Continuing |
| Government Engineering Services | WR | NAWC:Patuxent River MD | 4.634 | 2.300 | Nov 2010 | 2.300 | Dec 2011 | - | | 2.300 | Continuing | Continuing | Continuing |
| Government Engineering Services | WR | NSWC:Bethesda MD | 10.810 | 5.000 | Oct 2010 | 4.500 | Dec 2011 | - | | 4.500 | Continuing | Continuing | Continuing |
| Government Engineering Services | Various | Other Govt Activities:Various | 6.308 | - | | - | | - | | - | 0.000 | 6.308 | |
| Travel | Various | NAVSEA:Washington DC | 0.700 | 0.700 | Jan 2011 | 0.700 | Dec 2011 | - | | 0.700 | Continuing | Continuing | Continuing |
| Contractor Engineering Support | SS/CPFF | General Dynamics:Fairfax, VA | 5.614 | - | | - | | - | | - | 0.000 | 5.614 | |
| Contractor Engineering Support | SS/CPAF | Alion:Washington, DC | 1.703 | - | | - | | - | | - | 0.000 | 1.703 | |
| Contractor Engineering Support | SS/CPFF | JHU/APL:Laurel, MD | 2.696 | - | | - | | - | | - | 0.000 | 2.696 | |
| Contractor Engineering Support | SS/CPFF | EG&G:Fairfax, VA | 0.200 | - | | - | | - | | - | 0.000 | 0.200 | |
| Contractor Engineering Support | SS/CPAF | Sayres:Washington,DC | - | 1.200 | Mar 2011 | - | | - | | - | 0.000 | 1.200 | |
| Subtotal | | | 47.825 | 12.400 | | 10.700 | | - | | 10.700 | | | |
| Project Cost Totals | | | 396.331 | 441.117 | | 215.015 | | - | | 215.015 | | | |

Remarks

UNCLASSIFIED

UNCLASSIFIED

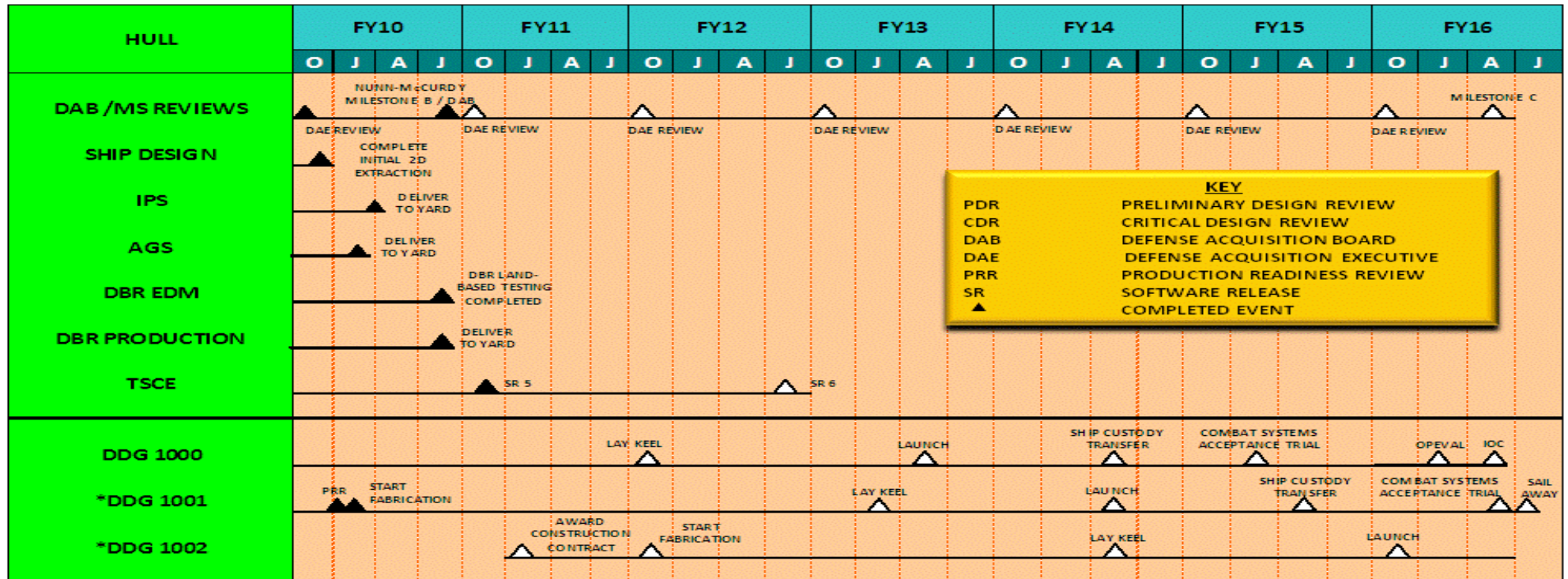
Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 5: Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE
 PE 0204202N: DDG-1000

PROJECT
 2464: DD(X) Sys Design, Dev & Integration



* DDG 1001/1002 schedule will be confirmed through negotiation of FPI contract with BIW

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0204202N: <i>DDG-1000</i> | PROJECT 2464: <i>DD(X) Sys Design, Dev & Integration</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|-------------------------|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| <i>Proj 2464</i> | | | | |
| Software Release SR5 | 1 | 2011 | 1 | 2011 |
| Software Release SR6 | 4 | 2012 | 4 | 2012 |

UNCLASSIFIED

| | | | | | | | | | | | |
|---|----------------|----------------|---------------------|--|----------------------|----------------|----------------|---|----------------|-------------------------|-------------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | | | | | | | DATE: February 2011 | | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | R-1 ITEM NOMENCLATURE PE 0204202N: <i>DDG-1000</i> | | | | PROJECT 4009: <i>Advanced Gun System (AGS) on DD(X)</i> | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| 4009: <i>Advanced Gun System (AGS) on DD(X)</i> | 107.427 | 108.124 | 46.589 | - | 46.589 | 8.843 | 18.794 | - | - | 0.000 | 289.777 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

These funds provide for the development of the Advanced Gun System (AGS) and the development, qualification and initial production of the Long Range Land Attack Projectile (LRLAP) associated with the development of DDG 1000. The AGS will consist of a major caliber gun, an automated ammunition handling system, and a guided projectile/propelling charge. The AGS will, at a minimum, meet the Land Attack and Surface Dominance Missions assigned to the gun system. The system will provide a high rate of fire (10 rounds per minute) with a magazine capacity of 600 rounds (total for both guns). LRLAP will be stored throughout its life cycle in an 8 round pallet which is handled by the AGS magazine. By palletizing the munition, AGS is able to significantly reduce manning and improve munition reliability, safety and resupply. The LRLAP Engineering Development Model (EDM) guided flight tests were completed in 2006. System Design and Development began in FY06 with final land based qualification testing planned in FY13. The Long Range Land Attack Projectile (LRLAP) is a rocket-assisted projectile that will deliver a high explosive unitary payload with Global Positioning System (GPS) accuracy. Funding for previous years is included in PE 0604300N.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|---|----------------|----------------|----------------|
| Title: Development of Hardware Test Assets | 1.100 | - | - |
| Articles: | 0 | | |
| Description: Development of Hardware Test Assets | | | |
| FY 2010 Accomplishments: Procurement of AGS Qualification test assets. | | | |
| Title: System Engineering, Development and Testing | 42.938 | 81.194 | 36.589 |
| Articles: | 0 | 0 | 0 |
| Description: System Engineering, Development and Testing | | | |
| FY 2010 Accomplishments: LRLAP System Design, development and qualification testing. | | | |
| FY 2011 Plans: LRLAP System Design, development, guided flight tests and qualification testing. | | | |
| FY 2012 Plans: | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0204202N: <i>DDG-1000</i> | PROJECT 4009: <i>Advanced Gun System (AGS) on DD(X)</i> |
|---|--|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| LRLAP System Design, development, guided flight tests and qualification testing. | | | |
| Title: Procurement of Ordnance Test Assets | 63.389 | 26.930 | 10.000 |
| Articles: | 0 | 0 | 0 |
| Description: Procurement of Ordnance Test Assets | | | |
| FY 2010 Accomplishments: Procurement of LRLAP rounds for qualification testing. | | | |
| FY 2011 Plans: Procurement of LRLAP rounds for qualification testing. | | | |
| FY 2012 Plans: Procurement of LRLAP rounds for qualification testing. | | | |
| Accomplishments/Planned Programs Subtotals | 107.427 | 108.124 | 46.589 |

C. Other Program Funding Summary (\$ in Millions)

| Line Item | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|-----------------------------|-----------|---------|-----------------|----------------|------------------|---------|---------|---------|---------|---------------------|------------|
| • SCN/2119: <i>DDG 1000</i> | 1,378.532 | 186.312 | 454.685 | 0.000 | 454.685 | 657.280 | 225.402 | 218.242 | 57.726 | 0.000 | 3,178.179 |

D. Acquisition Strategy
A revised acquisition strategy has been determined that supports the DDG-1000/DDG-51 restart shipyard allocation workload MOAs. Execution of the MOAs will shift primary construction of all three DDG-1000 class ships to Bath Iron Works (BIW). Award of the DDG 1001/1002 to BIW is targeted for 2nd quarter FY11. AGS is developed via a sole source contract to BAE. Lockheed is the key supplier to BAE for LRLAP development.

E. Performance Metrics
Successfully achieve Milestone C. Successfully achieve Initial Operational Capability. Successfully complete LRLAP guided flights and Initial Operational Test and Evaluation (IOT&E) test events.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0204202N: <i>DDG-1000</i> | PROJECT 4009: <i>Advanced Gun System (AGS) on DD(X)</i> |
|---|--|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| Primary Hardware Development | C/CPAF | BAE:Minneapolis MN | 102.950 | 99.450 | Jan 2011 | 42.148 | Dec 2011 | - | | 42.148 | 0.000 | 244.548 | |
| Subtotal | | | 102.950 | 99.450 | | 42.148 | | - | | 42.148 | 0.000 | 244.548 | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|------------------------|---|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| Test and Evaluation | Various | Various:Not Specified | 2.200 | 6.358 | Nov 2010 | - | | - | | - | 0.000 | 8.558 | |
| Test and Evaluation | WR | White Sands Missile Range:Not Specified | - | - | | 2.000 | Nov 2011 | - | | 2.000 | 0.000 | 2.000 | |
| Subtotal | | | 2.200 | 6.358 | | 2.000 | | - | | 2.000 | 0.000 | 10.558 | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|------------------------|-------------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| Contractor Engineering Services | Various | Various:Not Specified | 0.452 | 0.400 | Dec 2010 | 0.400 | Dec 2011 | - | | 0.400 | 0.000 | 1.252 | |
| Government Engineering Services | WR | NSWC DD:Dahlgren VA | 1.635 | 1.416 | Nov 2010 | 1.641 | Nov 2011 | - | | 1.641 | 0.000 | 4.692 | |
| Government Engineering Services | WR | NSWC PHD:Pt Hueneme CA | 0.190 | 0.400 | Nov 2010 | 0.400 | Nov 2011 | - | | 0.400 | 0.000 | 0.990 | |
| Government Engineering Services | WR | Various:Not Specified:Not Specified | - | 0.100 | Nov 2010 | - | | - | | - | 0.000 | 0.100 | |
| Subtotal | | | 2.277 | 2.316 | | 2.441 | | - | | 2.441 | 0.000 | 7.034 | |

| | | | Total Prior Years Cost | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|--|--|------------------------|---------|--|--------------|--|-------------|--|---------------|------------------|------------|--------------------------|
| Project Cost Totals | | | 107.427 | 108.124 | | 46.589 | | - | | 46.589 | 0.000 | 262.140 | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY

1319: Research, Development, Test & Evaluation, Navy
BA 5: Development & Demonstration (SDD)

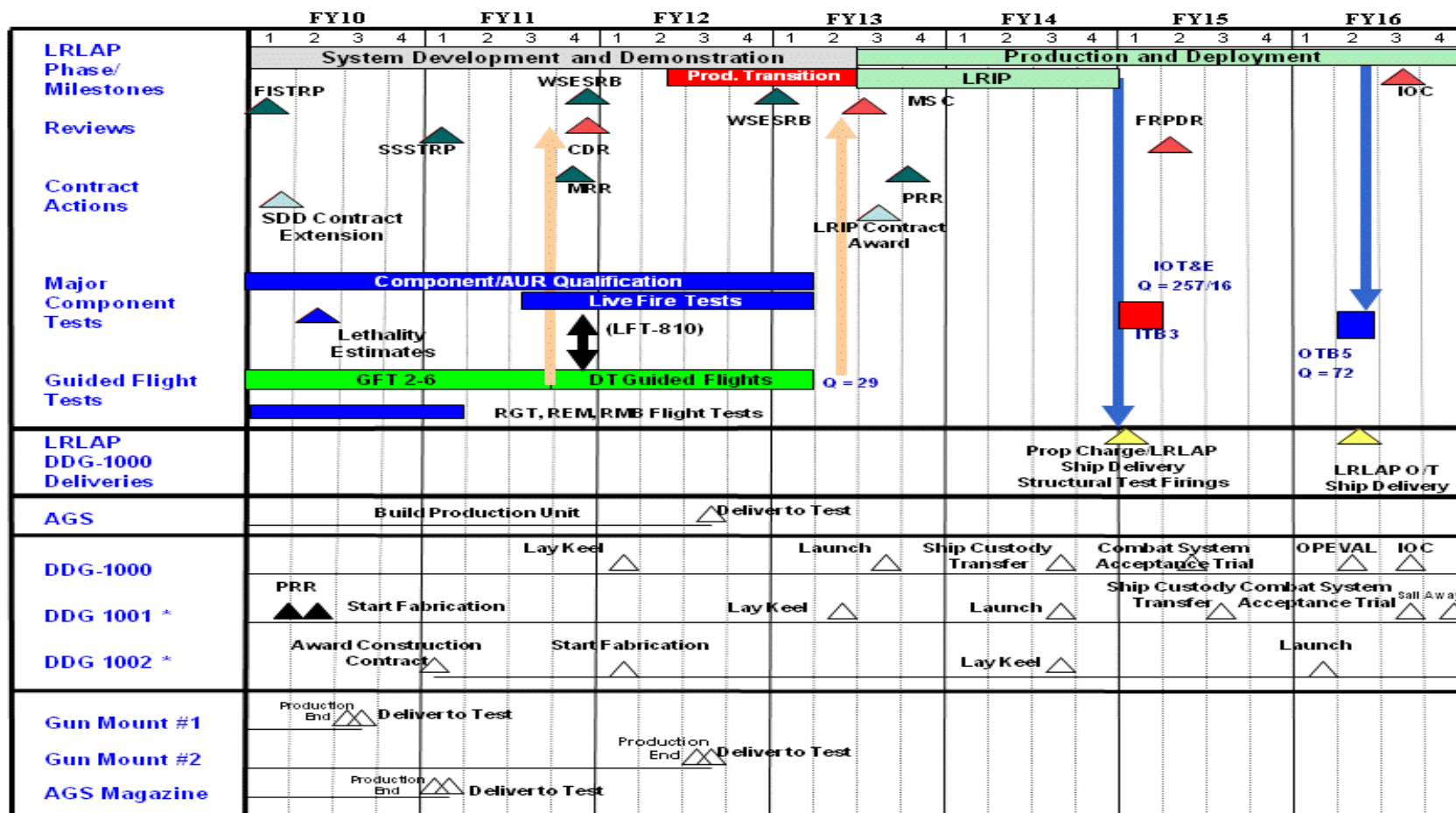
R-1 ITEM NOMENCLATURE

PE 0204202N: DDG-1000

PROJECT

4009: Advanced Gun System (AGS) on DD(X)

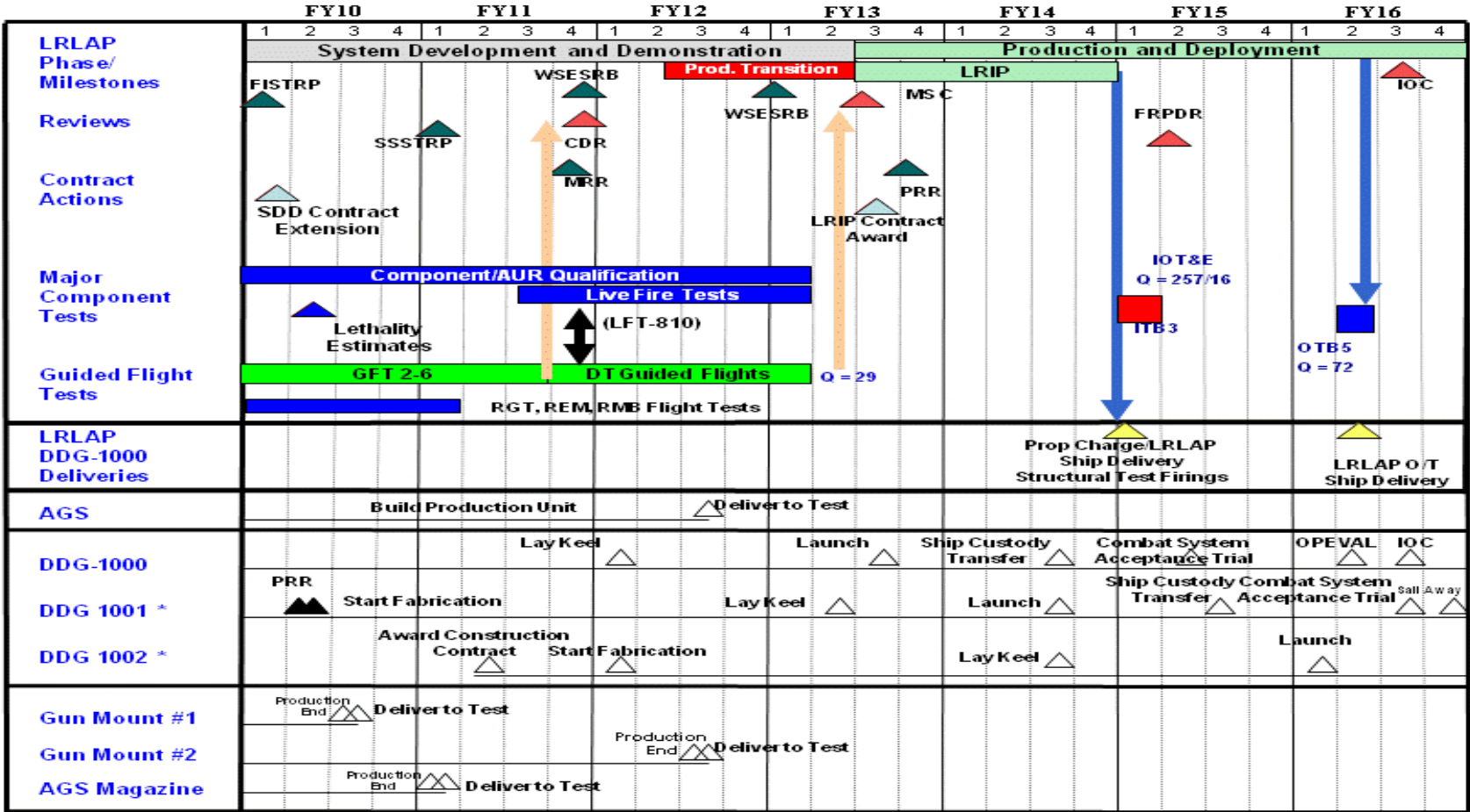
18 Jan 2011



* DDG 1001/1002 Schedule will be re-evaluated as part of the transition to BIW

UNCLASSIFIED

| | | | |
|---|--|--|--|
| Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy | | DATE: February 2011 | |
| APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 5: Development & Demonstration (SDD) | | R-1 ITEM NOMENCLATURE PE 0204202N: DDG-1000 | |
| | | PROJECT 4009: Advanced Gun System (AGS) on DD(X) | |



* DDG 1001/1002 Schedule will be re-evaluated as part of the transition to BIW

UNCLASSIFIED

| | | |
|---|--|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0204202N: <i>DDG-1000</i> | PROJECT 4009: <i>Advanced Gun System (AGS) on DD(X)</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 4009 | | | | |
| Guided Flight Tests | 1 | 2010 | 1 | 2013 |
| Component/AUR Qualification | 1 | 2010 | 1 | 2013 |
| Critical Design Review (CDR) | 4 | 2011 | 4 | 2011 |
| Milestone C (MS C) | 3 | 2013 | 3 | 2013 |
| Wpn Sys Explosive Safety Revw Bd (WSESRB) | 4 | 2011 | 1 | 2013 |
| Low Rate Initial Production (LRIP) | 3 | 2013 | 4 | 2014 |
| Initial Operating Capability (IOC) | 3 | 2016 | 3 | 2016 |
| Live Fire Tests | 3 | 2011 | 1 | 2013 |
| Full Rate Production Decision Review (FRP DR) | 2 | 2015 | 2 | 2015 |
| Gun Mount #1 Production End | 3 | 2010 | 3 | 2010 |
| Gun Mount #1 Deliver to Test | 3 | 2010 | 3 | 2010 |
| Gun Mount #2 Production End | 3 | 2012 | 3 | 2012 |
| Gun Mount #2 Deliver to Test | 3 | 2012 | 3 | 2012 |
| AGS Magazine Production End | 1 | 2011 | 1 | 2011 |
| AGS Magazine Deliver to Test | 1 | 2011 | 1 | 2011 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0204202N: <i>DDG-1000</i> | PROJECT 9999: <i>Congressional Adds</i> |
|---|--|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 9999: <i>Congressional Adds</i> | 3.984 | - | - | - | - | - | - | - | - | 0.000 | 3.984 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Congressional Add funds the development of a Floating Area Network (FAN) enabling a direct Line of Sight (LOS), wireless, Transmission Control Protocol/Internet (TCP/IP) network among intra-battle group ships.

B. Accomplishments/Planned Programs (\$ in Millions)

| | FY 2010 | FY 2011 |
|--|---------|---------|
| Congressional Add: Floating Area Network (FAN) Installation Of Wirele | 3.984 | - |
| FY 2010 Accomplishments: Congressional add. | | |
| Congressional Adds Subtotals | 3.984 | - |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

Congressional Add.

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | | | | R-1 ITEM NOMENCLATURE | | | | | | | |
|---|----------------|----------------|---------------------|---|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | PE 0304231N: <i>Tactical Command System - MIP</i> | | | | | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| Total Program Element | - | 1.318 | 0.979 | - | 0.979 | 1.170 | 1.143 | 1.175 | 1.151 | Continuing | Continuing |
| 2009: <i>OSIS Evolutionary Development (OED)</i> | - | 1.318 | 0.979 | - | 0.979 | 1.170 | 1.143 | 1.175 | 1.151 | Continuing | Continuing |

Note

Resources were transferred from PE 0604231N to PE 0304231N beginning in FY11.

A. Mission Description and Budget Item Justification

Trusted Information Systems (TIS): Radiant Mercury (RM) is a secure information platform that provides an automated means to sanitize, downgrade, guard, and transliterate formatted data at various classifications, compartments, and releasabilities. With the aid of a reliable human reviewer, RM can process nonstandard messages, such as messages with National Imagery Transmission Format (NITF) products and other non/semi-formatted file types. It enables combat commanders and operational commanders, afloat and ashore, to disseminate and receive critical operational and intelligence information with coalition and allied forces.

Major Focus Area for FY12: Identify and define emerging requirements for RM Version 5.x to meet Consolidated Afloat Network and Enterprise Services (CANES) and other Navy and non-Navy Cross Domain Solution (CDS) requirements. Develop RM Version 5.x based upon user feedback. Continue to develop and integrate Radiant Mercury into PEO-C4I Program Offices evolving architectures.

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | - | 1.318 | 1.081 | - | 1.081 |
| Current President's Budget | - | 1.318 | 0.979 | - | 0.979 |
| Total Adjustments | - | - | -0.102 | - | -0.102 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | - | - | | | |
| • SBIR/STTR Transfer | - | - | | | |
| • Program Adjustments | - | - | -0.102 | - | -0.102 |

Change Summary Explanation

Schedule : Certification Test and Evaluation 5.x schedule slipped from 4QFY11 to 2QFY12 due to NSA schedule delays. Certification Test and Evaluation 6.0 schedule slipped from 2QFY13 to 3QFY13 due to NSA schedule delays.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | R-1 ITEM NOMENCLATURE |
|---|---|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | PE 0304231N: <i>Tactical Command System - MIP</i> |

Delivery of RM Version 5.x schedule slipped from 1QFY12 to 3QFY12 due to NSA certification schedule delays. Delivery of RM Version 6.0 schedule slipped from 3QFY13 to 4QFY13 due to NSA certification schedule delays.

Technical: Not Applicable.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0304231N: <i>Tactical Command System - MIP</i> | PROJECT 2009: <i>OSIS Evolutionary Development (OED)</i> |
|---|---|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 2009: <i>OSIS Evolutionary Development (OED)</i> | - | 1.318 | 0.979 | - | 0.979 | 1.170 | 1.143 | 1.175 | 1.151 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

Note
Resources were transferred from PE 0604231N to PE 0304231N beginning in FY11.

A. Mission Description and Budget Item Justification

Radiant Mercury (RM): Trusted Information System (TIS) Radiant Mercury (RM) is a system that successfully provides accredited Cross Domain Solutions (CDS) to the Navy, DoD, and Intelligence Community. TIS RM is a critical component of network-centric warfare, supporting joint operations and coalition forces world-wide. The ability to pass sensitive, yet critical, data across security domains and to our Coalition partners in a timely fashion can only be met by accredited Cross Domain Solution (CDS) systems such as Radiant Mercury. RM enables operation in a multi-national environment.

TIS RM provides automated, bi-directional sanitization, transliteration, and guarding capability for formatted and unformatted data between security enclaves. Radiant Mercury helps ensure critical intelligence is provided quickly to operational decision-makers. TIS RM provides the capability to disseminate information for operating forces worldwide, including the operating forces of key allies in Pacific, Central and Europe Command regions. This capability to move all-source intelligence-derived track information into the realm of the operational community significantly improves the situational awareness of tactical operators and planners. Additionally, it assists in providing critical operational information to intelligence and cryptologic analysts. Unformatted data is handled by the Information Review Process (IRP). The system provides cross domain services to a wide variety of customers including Combatant Commanders, Air Force (Shared Early Warning program), Army (Blue Force Tracking program), Navy (Global Command and Control System - Maritime (GCCS-M) and Automatic Identification System (AIS), Maritime Operations Centers (MOC), Distributed Common Ground System-Navy (DCGS-N), Tactical Ranges, and numerous other DoD and Intelligence agencies.

FY12: Develop RM Version 5.x based upon user feedback. The next RM incremental update will include improvements identified by Operational Commands and remedies to shortfalls as identified in the Unified Cross Domain Management Office (UCDMO) roadmap. Continue to develop and Integrate Radiant Mercury into PEO-C4I Program Offices evolving architectures to include Consolidated Afloat Networks and Enterprise Services (CANES).

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|--|---------|---------|---------|
| Title: Radiant Mercury | - | 1.318 | 0.979 |
| Articles: | | 0 | 0 |
| FY 2011 Plans: | | | |
| Develop and test RM version 5.x. Identify and define emerging requirements for RM version 5.x to meet Navy and non-Navy Cross Domain Solution (CDS) requirements. Conduct RM software version 5.x certification tests by Defense Intelligence Agency | | | |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0304231N: <i>Tactical Command System - MIP</i> | PROJECT 2009: <i>OSIS Evolutionary Development (OED)</i> |
|---|---|--|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| (DIA) and risk assessment by National Security Agency (NSA). Conduct security test and evaluation of RM version 5.x by Joint Interoperability Test Command (JITC). Identify and define emerging requirements for RM version 5.x to meet other Navy and non-Navy Cross Domain Solution (CDS) requirements. FY 2012 Plans: Develop RM Version 5.x based upon user feedback. The next RM incremental update will include improvements identified by operational commands and remedies to shortfalls as identified in the Unified Cross Domain Management Office (UCDMO) roadmap. Continue to develop and Integrate Radiant Mercury into PEO-C4I Program Offices evolving architectures to include Consolidated Afloat Networks and Enterprise Services (CANES). | | | |
| Accomplishments/Planned Programs Subtotals | - | 1.318 | 0.979 |

C. Other Program Funding Summary (\$ in Millions)

| Line Item | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---------------------------------|---------|---------|-----------------|----------------|------------------|---------|---------|---------|---------|---------------------|------------|
| • OPN/2608: <i>GCCS-M (TIS)</i> | 0.000 | 0.338 | 0.426 | 0.000 | 0.426 | 0.487 | 0.442 | 0.459 | 0.425 | Continuing | Continuing |

D. Acquisition Strategy

Trusted Information Systems (TIS) Radiant Mercury (RM) provides automated, bi-directional sanitization, transliteration, and guarding capability for formatted and unformatted data between security enclaves. RM helps ensure critical indications and warning intelligence is provided quickly to operational decision-makers. RM is actively involved in the production and cross domain dissemination of information for operating forces worldwide, including the operating forces of key allies involved in the Overseas Contingency Operations (OCO), in Pacific Command (PACOM), Europe Command (EUCOM) and Central Command (CENTCOM) regions.

E. Performance Metrics

Provide and develop certified, accredited Cross Domain Solution (CDS) and transfer capabilities to the Department of Defense and Intelligence Community, and provide the capability to disseminate and receive operational and intelligence information for 100% of authorized sites. Complete 100% of certification, system, and security testing of Radiant Mercury (RM) version 5.x for release. Provide the capability to sanitize, downgrade, guard, and transliterate formatted data at various classifications, compartments and releasabilities to combat and operational commanders, coalition and allied forces at over 420 sites world wide.

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0304231N: <i>Tactical Command System - MIP</i> | PROJECT 2009: <i>OSIS Evolutionary Development (OED)</i> |
|---|---|--|

| Fiscal Year | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | 2014 | | | | 2015 | | | | 2016 | | | |
|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test & Evaluation Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Certification Test (NOTE 1) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| System Test | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RM Software Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RM 5.x / 6.0 / 6.x SW Delivery (NOTE 2) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

NOTES: Exhibit R-4, Schedule Profile
 1) Certification Test and Evaluation 5.x schedule slipped from 4QFY11 to 2QFY12 due to NSA schedule delays. Certification Test and Evaluation 6.0 schedule slipped from 2QFY13 to 3QFY13 due to NSA schedule delays.
 2) Delivery of RM Version 5.x schedule slipped from 1QFY12 to 3QFY12 due to NSA certification schedule delays. Delivery of RM Version 6.0 schedule slipped from 3QFY13 to 4QFY13 due to NSA certification schedule delays.

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0304231N: <i>Tactical Command System - MIP</i> | PROJECT 2009: <i>OSIS Evolutionary Development (OED)</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 2009 | | | | |
| RM Software - Test and Integrate Capabilities needed by CANES/operational commands in version 5.x | 1 | 2011 | 1 | 2011 |
| RM Software - Delivery of RM Version 5.x | 3 | 2012 | 3 | 2012 |
| RM Software - Delivery of RM Version 6.0 | 4 | 2013 | 4 | 2013 |
| RM Software - Delivery of RM Version 6.x | 3 | 2015 | 3 | 2015 |
| RM Test & Evaluation Milestone - CT&E - RM Version 5.x | 2 | 2012 | 2 | 2012 |
| RM Test & Evaluation Milestone - CT&E - RM Version 6.0 | 3 | 2013 | 3 | 2013 |
| RM Test & Evaluation Milestone - CT&E - RM Version 6.x | 4 | 2015 | 4 | 2015 |
| RM Software - Test and Integrate Capabilities needed by CANES/operational commands in version 7.x | 4 | 2016 | 4 | 2016 |

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| APPROPRIATION/BUDGET ACTIVITY | | | | R-1 ITEM NOMENCLATURE | | | | | | | |
|---|----------------|----------------|---------------------|---|----------------------|----------------|----------------|----------------|----------------|-------------------------|-------------------|
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | | | | PE 0304503N: <i>SSN-688 and Trident Modernization-MIP</i> | | | | | | | |
| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
| Total Program Element | - | 1.415 | - | - | - | - | - | - | - | 0.000 | 1.415 |
| 0775: <i>Submarine Supt Equip Prog</i> | - | 1.415 | - | - | - | - | - | - | - | 0.000 | 1.415 |

A. Mission Description and Budget Item Justification

The Submarine Support Equipment Program develops and improves techniques, components, equipment, and systems that will increase submarine operational effectiveness, safety of ship, and survivability in the increasingly dense and sophisticated electromagnetic environment caused by the proliferation of complex radar, communications, and navigation equipment of potential adversaries. Joint Improvements are necessary for Submarine Electronic Warfare Support (ES) systems to be operationally effective in the following mission areas: Joint Littoral Warfare; Joint Space and Electronic Warfare and Intelligence Collection; Maritime Protection; Information Operations, Special Operations Force (SOF) Support; and Joint Strike. Efforts include: (1) Integration of Surveillance, the technology developed and transitioned from the Advanced Submarine Support Equipment Program (ASSEP), project F0770 into the tactical ES system; (2) Resolution of software trouble reports during technology updates, from fleet feedback reports, and Submarine Warfare Federated Tactical System (SWFTS)/Non Propulsion Electronic System (NPES) Tactical Local Area Network (TACLAN) migrations; (3) Integration, test, and installation of COTS technology for system enhancements.

The Electronic Warfare Support (ES) Development Projects include the development of: Low Probability of Intercept (LPI) Direction Finding (DF), Distant ES Support and Remote Log-In, Specific Emitter Identification (SEI) Improvements, ES Vulnerability Tool, Integrated ES and ECS Radio Frequency Distribution Unit (RFDU), Capability and Technical Initiatives, and next generation processes and radar wideband miniaturization.

Submarine Support Equipment Program was transferred from a Military Intelligence Program, Program Element (PE) 0304503N in Fiscal Year 2012 back to PE 0604503N.

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | - | 1.415 | 1.440 | - | 1.440 |
| Current President's Budget | - | 1.415 | - | - | - |
| Total Adjustments | - | - | -1.440 | - | -1.440 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | - | - | | | |
| • SBIR/STTR Transfer | - | - | | | |
| • Program Adjustments | - | - | -1.419 | - | -1.419 |
| • Rate/Misc Adjustments | - | - | -0.021 | - | -0.021 |

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0304503N: <i>SSN-688 and Trident Modernization-MIP</i> |
|---|---|

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0304503N: <i>SSN-688 and Trident Modernization-MIP</i> | PROJECT 0775: <i>Submarine Supt Equip Prog</i> |
|---|---|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 0775: <i>Submarine Supt Equip Prog</i> | - | 1.415 | - | - | - | - | - | - | - | 0.000 | 1.415 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

This program develops and improves techniques, components, equipment, and systems that will increase submarine operational effectiveness, safety of ship, and survivability in the increasingly dense and sophisticated electromagnetic environment caused by the proliferation of complex radar, communications, and navigation equipment of potential adversaries. Improvements are necessary for Submarine Electronic Warfare Support (ES) systems to be operationally effective in the following mission areas: Joint Littoral Warfare; Joint Surveillance, Space and Electronic Warfare and Intelligence Collection; Maritime Protection; Information Operations, Special Operations Force (SOF) Support; and Joint Strike. Efforts include: (1) Integration of the technology developed and transitioned from the Advanced Submarine Support Equipment Program (ASSEP), project F0770 into the tactical ES system; (2) Resolution of software trouble reports during technology updates, from fleet feedback reports, and Submarine Warfare Federated Tactical System (SWFTS)/Non Propulsion Electronic System (NPES) Tactical Local Area Network (TACLAN) migrations; (3) Integration, test, and installation of COTS technology for system enhancements.

The Electronic Warfare Support (ES) Development Projects include the development of: Low Probability of Intercept (LPI) Direction Finding (DF), Distant ES Support and Remote Log-In, Specific Emitter Identification (SEI) Improvements, ES Vulnerability Tool, Integrated ES and ECS Radio Frequency Distribution Unit (RFDU), Capability and Technical Initiatives, and next generation processes and radar wideband miniaturization.

RDTE Funding line supports the entire AN/BLQ-10 ES procurement program. Average FY OPN and SCN hardware procurement yearly funds are \$100M.

Submarine Support Equipment Program was transferred from a Military Intelligence Program, Program Element (PE) 0304503N in Fiscal Year 2012 back to PE 0604503N.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|--|---------|---------|---------|
| Title: Submarine Support Equipment Program | - | 1.415 | - |
| Articles: | | 0 | |
| FY 2011 Plans: Update AN/BLQ-10 baseline with technical insertion enhancements. Research and resolve AN/BLQ-10 SPRs. | | | |
| Accomplishments/Planned Programs Subtotals | - | 1.415 | - |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0304503N: <i>SSN-688 and Trident Modernization-MIP</i> | PROJECT 0775: <i>Submarine Supt Equip Prog</i> |
|---|---|--|

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> <u>Base</u> | <u>FY 2012</u> <u>OCO</u> | <u>FY 2012</u> <u>Total</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
|---|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| • OPN/256000: <i>Submarine Supt Equip Prog</i> | 0.000 | 71.558 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 71.558 |
| • SCN/201300: <i>Virginia Class Submarine</i> | 0.000 | 46.850 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 46.850 |
| • RDT&E/0303562N: <i>Submarine Tactical Warfare</i> | 0.000 | 3.600 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 3.600 |

D. Acquisition Strategy

AN/BLQ-10 (V) ES System - Procurements are executed/managed in accordance with the Acquisition Strategy Report (Rev 6) for AN/BLQ-10(V) ES System dtd 12/14/09 and the Acquisition Plan (Rev 8) for AN/BLQ-10(V) ES System dtd 12/15/09. PE 0304503N funds will be executed via work requests.

E. Performance Metrics

The RDD program goal is to respond to urgent operational needs within 30 days and provide for rapid development and fielding of prototype solutions within 270 days.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0304503N: <i>SSN-688 and Trident Modernization-MIP</i> | PROJECT 0775: <i>Submarine Supt Equip Prog</i> |
|---|---|--|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| AN/BLQ-10 ES Product Development | C/CPFF | Various:Not Specified | - | 0.156 | Dec 2011 | - | | - | | - | 0.000 | 0.156 | Continuing |
| Systems Engineering and Test Support | WR | NUWC:Newport RI | - | 0.962 | Nov 2011 | - | | - | | - | 0.000 | 0.962 | Continuing |
| Systems Engineering and Test Support | C/CPAF | TBD*:Not Specified | - | 0.255 | Mar 2011 | - | | - | | - | 0.000 | 0.255 | Continuing |
| Subtotal | | | - | 1.373 | | | - | | | - | 0.000 | 1.373 | |

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Travel | WR | NAVSEA:WNY | - | 0.014 | Oct 2011 | - | | - | | - | 0.000 | 0.014 | 0.014 |
| SBIR Assessment | Various | Not Specified:Not Specified | - | 0.028 | Mar 2011 | - | | - | | - | 0.000 | 0.028 | 0.028 |
| Subtotal | | | - | 0.042 | | | - | | | - | 0.000 | 0.042 | 0.042 |

Remarks

Labor (Research) removed. No longer applicable.

| | Total Prior Years Cost | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|------------------------|---------|--------------|-------------|---------------|------------------|------------|--------------------------|
| Project Cost Totals | - | 1.415 | - | - | - | 0.000 | 1.415 | |

Remarks

* FY11 Systems Engineering and Test Support contract is to be competitively awarded.

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0304503N: <i>SSN-688 and Trident Modernization-MIP</i> | PROJECT 0775: <i>Submarine Supt Equip Prog</i> |

| Fiscal Year | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | 2014 | | | | 2015 | | | | 2016 | | | |
|--|------|---|---|---|--|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| AN/BLQ-10 Baseline SWFTS and NPES Changes, SPR Resolution and Software Enhancements | | | | | SW Update ▲————— | | | | | | | | | | | | | | | | | | | | | | | |
| Capability Insertions (Pulse Digitizer Upgrade, Processor Upgrade, Multi Static Passive Ranging/Signature Reduction) | | | | | Research Test Integrate ▲————▲——▲—— | | | | | | | | | | | | | | | | | | | | | | | |
| Technical Insertions (Next Generation Processor, RADAR Wide Band Minutization, Advanced EV Tuners) | | | | | Test ▲———— | | | | | | | | | | | | | | | | | | | | | | | |

UNCLASSIFIED

| | | |
|---|---|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0304503N: <i>SSN-688 and Trident</i> <i>Modernization-MIP</i> | PROJECT 0775: <i>Submarine Supt Equip Prog</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 0775 | | | | |
| AN/BLQ-10 BASELINE SWFTS AND NPES Changes, SPR Resolution and Software Enhancements | 1 | 2011 | 1 | 2011 |
| Capability Insertions 1 (Pulse Digitizer Upgrade, Processor Upgrade, Muliti Static Passive Ranging/Signature Reduction) | 1 | 2011 | 1 | 2011 |
| Capability Insertions 2 (Pulse Digitizer Upgrade, Processor Upgrade, Muliti Static Passive Ranging/Signature Reduction) | 2 | 2011 | 2 | 2011 |
| Capability Insertions 3 (Pulse Digitizer Upgrade, Processor Upgrade, Muliti Static Passive Ranging/Signature Reduction) | 3 | 2011 | 3 | 2011 |
| Technical Insertions (Next Generation Processor, RADAR Wide Band Miniaturization, Advanced EW Tuners) | 1 | 2011 | 1 | 2011 |

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0304785N: <i>Tactical Cryptologic Systems</i> |
|---|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| Total Program Element | 19.735 | 17.019 | 31.740 | - | 31.740 | 14.784 | 14.196 | 14.482 | 14.737 | Continuing | Continuing |
| 2134: <i>Shipboard IW Exploit</i> | 16.845 | 16.554 | 31.740 | - | 31.740 | 14.784 | 14.196 | 14.482 | 14.737 | Continuing | Continuing |
| 3165: <i>Automatic Identification System (AIS)</i> | 0.500 | 0.465 | - | - | - | - | - | - | - | 0.000 | 0.965 |
| 9999: <i>Congressional Adds</i> | 2.390 | - | - | - | - | - | - | - | - | 0.000 | 2.390 |

A. Mission Description and Budget Item Justification

The Shipboard Information Warfare (IW) line includes the Ships Signal Exploitation Equipment (SSEE) Increment (Inc) E, F and G programs that execute a major component of the Maritime Cryptologic Systems for the 21st Century. The SSEE program is a classified IW / Information Operations (IO) and tactical cryptologic system that subsequently provides critical tactical intelligence, situational awareness, battlespace awareness, indications and warnings, and hostile threat assessment. As a spiral acquisition program, Research, Development, Test & Evaluation (RDT&E) funding is required to have new technologies and associated new operational capabilities rapidly developed and transitioned as Pre-Planned Product Improvements (P3I) upgrades into the system's hardware/software configuration. These systems provide the battle group and combatant commanders with the surfaces fleet's only IO non-kinetic capabilities ("Finish"). In addition they provide the battle groups with real time indications and warnings by acquisition ("Find") and localization ("Fix") of Signals of Interest (SOI). This program's funding is required to incorporate P3I, new Commercial Off-the-Shelf (COTS) based technologies and software into the existing systems. Funding will also focus on developing and delivering expanded non-kinetic IO capabilities and net-centric Service Oriented Architecture (SOA), which includes the development, integration and test of "Ballistic Missile Defense (BMD) Executive Committee (EXCOM) Anti-Submarine Warfare (ASW) Chief of Naval Operations (CNO) Executive Board IO Countermeasure Red Flash/Medusa (details classified) " and Paragon, a frequency extension and targeting enhancement, into SSEE Inc F and G programs. SSEE Inc F will be developing software and hardware upgrades in support of emergent adversary signals of interest and SSEE Inc G will integrate and improve upon all aspects of the "BMD EXCOM ASW CNO CEB IO Countermeasure Red Flash/Medusa" and Paragon, extending their range, automation, and integration into a coordinated IO weapon system.

Graywing is an electronic sensing and attack capability that will be integrated into SSEE Inc E, F and G systems. It is a critical component of "BMD EXCOM ASW CEB IO Countermeasure Red Flash" with details held at a higher classification level. GRAYWING will commence the production of its Engineering Development Model (EDM) as well as its initial laboratory, integration, environmental and testing.

Integrated Communications and Data System (ICADS) is a non-kinetic capability that can be rapidly developed to counter a serious threat to afloat units. ICADS provides a counter-Intelligence, Surveillance, Reconnaissance (ISR) capability against adversary sensor systems (specific development/capability details are held at a higher classification).

Automatic Identification System (AIS) is an International Maritime Very High Frequency Communication system that allows any ship to exchange information (machine to machine) on Navigation (Position, Course, Speed, etc), Ship Info (Ship Name, Call Sign, Length/Beam), and Cargo Info (Draft, Type, Destination, Route, Estimated Time of Arrival) and Messaging (Safety, Text). This technology will improve capability in three diverse areas: (a) Situational Awareness/Common Operational Picture

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy **DATE:** February 2011

| | |
|---|--|
| APPROPRIATION/BUDGET ACTIVITY | R-1 ITEM NOMENCLATURE |
| 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | PE 0304785N: <i>Tactical Cryptologic Systems</i> |

(b) Navigation/Safety of Ship and (c) Other intelligence gathering/correlation. Funding will support the integration of modified COTS AIS equipment with the existing Global Command and Control - Maritime/Common Operational Picture, navigation and bridge display capabilities, surface search / weapons systems and intelligence / Cryptologic capabilities

Congressional Adds:

Paragon(Frequency Extension) is a classified Navy tactical signals intelligence frequency extension capability that will be integrated into Ships Signal Exploitation Equipment (SSEE) Inc E and F programs. This capability provides simultaneous detection, collection, processing, Information Operations and display of communication intelligence data from hostile, high threat and adversary platforms in select frequency ranges that are not prosecuted or countered today.

FY12 funding will incorporate further Pre-Planned Product Improvements (P3I), new Commercial Off-the-Shelf (COTS) based technologies and software into SSEE Inc F and G. SSEE Inc F will be developing software and hardware upgrades in support of emergent adversary signals of interest. SSEE Inc G will be doing pre-acquisition research into software, hardware, and CYBER capabilities in support of Milestone B and the release of a Request for Proposal (RFP). Graywing will commence the production of its Engineering Development Model (EDM) as well as its initial laboratory, integration, environmental and testing. Funding will also focus on the continuation of efforts in support of the integration and testing of "BMD EXCOM ASW CEB IO Countermeasure Red Flash/Medusa," Paragon, and Graywing into SSEE Inc F and G.

| B. Program Change Summary (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 19.833 | 17.019 | 16.567 | - | 16.567 |
| Current President's Budget | 19.735 | 17.019 | 31.740 | - | 31.740 |
| Total Adjustments | -0.098 | - | 15.173 | - | 15.173 |
| • Congressional General Reductions | | - | | | |
| • Congressional Directed Reductions | | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | | - | | | |
| • Congressional Directed Transfers | | - | | | |
| • Reprogrammings | - | - | | | |
| • SBIR/STTR Transfer | - | - | | | |
| • Program Adjustments | - | - | 15.502 | - | 15.502 |
| • Section 219 Reprogramming | -0.098 | - | - | - | - |
| • Rate/Misc Adjustments | - | - | -0.329 | - | -0.329 |

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: 9999: *Congressional Adds*

Congressional Add: *Paragon System Upgrades*

| | FY 2010 | FY 2011 |
|--|----------------|----------------|
| | 2.390 | - |
| | 2.390 | - |

UNCLASSIFIED

| | |
|---|----------------------------|
| Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Navy | DATE: February 2011 |
|---|----------------------------|

| | |
|---|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0304785N: <i>Tactical Cryptologic Systems</i> |
|---|--|

| Congressional Add Details (\$ in Millions, and Includes General Reductions) | FY 2010 | FY 2011 |
|--|----------------|----------------|
| Congressional Add Subtotals for Project: 9999 | | |
| Congressional Add Totals for all Projects | 2.390 | - |

Change Summary Explanation

The increase in FY 2012 from PB 2011 reflects the transfer of efforts and funds for Graywing and Medusa from PE 0204575N.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0304785N: <i>Tactical Cryptologic Systems</i> | PROJECT 2134: <i>Shipboard IW Exploit</i> |
|---|--|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|-----------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 2134: <i>Shipboard IW Exploit</i> | 16.845 | 16.554 | 31.740 | - | 31.740 | 14.784 | 14.196 | 14.482 | 14.737 | Continuing | Continuing |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

Note

Funding and developmental efforts for Graywing transferred from PE 0204575N, project unit 2263 beginning in FY12.

A. Mission Description and Budget Item Justification

The Shipboard Information Warfare (IW) line includes the Ships Signal Exploitation Equipment (SSEE) Increment (Inc) E, F and G programs that execute a major component of the Maritime Cryptologic Systems for the 21st Century. The SSEE program is a classified IW / Information Operations (IO) and tactical cryptologic system that subsequently provides critical tactical intelligence, situational awareness, battlespace awareness, indications and warnings, and hostile threat assessment. As a spiral acquisition program, Research, Development, Test & Evaluation (RDT&E) funding is required to have new technologies and associated new operational capabilities rapidly developed and transitioned as Pre-Planned Product Improvements (P3I) upgrades into the system's hardware/software configuration. These systems provide the battle group and combatant commanders with the surfaces fleet's only IO non-kinetic capabilities ("Finish"). In addition they provide the battle groups with real time indications and warnings by acquisition ("Find") and localization ("Fix") of Signals of Interest (SOI). This program's funding is required to incorporate P3I, new Commercial Off-the-Shelf (COTS) based technologies and software into the existing systems. Funding will also focus on developing and delivering expanded non-kinetic IO capabilities and net-centric Service Oriented Architecture (SOA), which includes the development, integration and test of "Ballistic Missile Defense (BMD) Executive Committee (EXCOM) Anti-Submarine Warfare (ASW) Chief of Naval Operations (CNO) Executive Board IO Countermeasure Red Flash/Medusa (details classified) " and Paragon, a frequency extension and targeting enhancement, into SSEE Inc F and G programs. SSEE Inc F will be developing software and hardware upgrades in support of emergent adversary signals of interest and SSEE Inc G will integrate and improve upon all aspects of the "BMD EXCOM ASW CNO CEB IO Countermeasure Red Flash/Medusa" and Paragon, extending their range, automation, and integration into a coordinated IO weapon system.

Graywing is an electronic sensing and attack capability that will be integrated into SSEE Inc E, F and G systems. It is a critical component of "BMD EXCOM ASW CEB IO Countermeasure Red Flash" with details held at a higher classification level. Graywing will commence the production of its Engineering Development Model (EDM) as well as its initial laboratory, integration, environmental and testing.

Integrated Communications and Data System (ICADS) is a non-kinetic capability that can be rapidly developed to counter a serious threat to afloat units. ICADS provides a counter-Intelligence, Surveillance, Reconnaissance (ISR) capability against adversary sensor systems (specific development/capability details are held at a higher classification).

FY12 funding will incorporate further P3I, new COTS based technologies and software into SSEE Inc F and G. SSEE Inc F will be developing software and hardware upgrades in support of emergent adversary signals of interest. SSEE Inc G will be doing pre-acquisition research into software, hardware, and CYBER capabilities in support of Milestone B and the release of a Request for Proposal (RFP). GRAYWING will commence the production of its Engineering Development Model (EDM)

UNCLASSIFIED

| | | | | |
|---|--|---|----------------|----------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0304785N: <i>Tactical Cryptologic Systems</i> | PROJECT 2134: <i>Shipboard IW Exploit</i> | | |
| as well as its initial laboratory, integration, environmental and testing. Funding will also focus on the continuation of efforts in support of the integration and testing of "BMD EXCOM ASW CEB IO Countermeasure Red Flash/Medusa," Paragon, and Graywing into SSEE Inc F and G. | | | | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 | FY 2012 |
| Title: Ship Signal Exploitation Equipment Inc E (SSEE Inc E) FY 2010 Accomplishments: Completed development efforts for SSEE Inc E. Completed the expansion of Signals of Interest (SOI) processing capability to allow collection of the newest high priority modern technology threat signals for tightly integrated Information Operations (IO) / non-kinetic, and processing and analysis capabilities. Completed the development and integration of CUB software in support of battlegroup interoperability. Completed the development and integration to Hostile Forces Integrated Targeting System (HITS) to integrate both national and tactical Intelligence, Surveillance, and Reconnaissance (ISR) sensors for new and emerging SOI. | | 1.739 0 | - | - |
| Title: Ship Signals Exploitation Equipment Inc F (SSEE Inc F) FY 2010 Accomplishments: Completed Engineering Development Model (EDM) interoperability testing, platform integration efforts, environmental qualifications and correction of deficiencies identified during operational assessment. Achieved Milestone C (MSC) in Q2 FY10. Continued to expand SOI processing capability to allow collection of the newest high priority modern technology threat signals for tightly integrated IO/non-kinetic capabilities for support to time critical military strike operations and subsequent processing and analysis capabilities for timely and accurate situational awareness for force protection. Funding focused on developing and delivering IO capabilities based on FY10 SOI threats and Net-Centric SOA including development integration and test of "Ballistic Missile Defense (BMD) Executive Committee (EXCOM) Anti-Submarine Warfare (ASW) Chief of Naval Operations Executive Board (CEB) IO Countermeasure Red Flash" (program details classified), and Paragon (Frequency Extension/Targeting Enhancement) for integration into SSEE Inc F. FY 2011 Plans: Continue to expand SOI processing capability to allow collection of the newest high priority modern technology threat signals for tightly integrated IO/non-kinetic capabilities for support to time critical military strike operation and subsequent processing and analysis capabilities for timely and accurate situational awareness for force protection. Conduct operational evaluation in support of full rate decision. Correct limitations identified in operational evaluation in support of Follow on Test and Evaluation (FOT&E). Continue to develop and deliver IO capabilities based on FY11 SOI threats and Net-Centric SOA including development integration and test of "BMD EXCOM ASW CEB IO Countermeasure Red Flash/Medusa" and Paragon (Frequency Extension/Targeting Enhancement capabilities) for integration into SSEE Inc F. FY 2012 Plans: | | 11.677 0 | 15.615 0 | 4.638 0 |

UNCLASSIFIED

| | | | |
|---|--|---|----------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 | |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0304785N: <i>Tactical Cryptologic Systems</i> | PROJECT 2134: <i>Shipboard IW Exploit</i> | |
| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | | FY 2010 | FY 2011 |
| <p>Conduct FOT&E for SSEE INC F, platform integration, and environmental qualifications for SSEE Inc F Paragon EDM. Continue to expand SOI processing capability to allow collection of the newest high priority modern technology threat signals for tightly integrated IO/non-kinetic capabilities for support to time critical military strike operation and subsequent processing and analysis capabilities for timely and accurate situational awareness for force protection. Continue to develop and deliver IO capabilities based on FY12 SOI threats for "BMD EXCOM ASW CEB IO Countermeasure Red Flash/Medusa" and Paragon (Frequency Extension/Targeting Enhancement capabilities) for integration into SSEE Inc F.</p> <p>Title: Ship Signals Exploitation Equipment Inc G (SSEE Inc G)</p> <p align="right">Articles:</p> | | - | - |
| <p>FY 2012 Plans: Commence the initial research and pre-acquisition activities leading up to Milestone B (MSB) and the release of a Request for Proposal (RFP) for both software and hardware in support of SSEE Inc G. Conduct research into CYBER capabilities (details classified) that can be integrated into SSEE Inc G software and determine if their use is feasible in the maritime environment. SSEE Inc G will expand upon the SSEE Inc F capability of exploiting signals throughout the Radio Frequency (RF) spectrum, in addition to focusing new technologies towards new and previously unexplored/unexploited CYBER capabilities as we integrate into the Electronic Warfare (EW) Battle Management Network. SSEE Inc G will integrate and improve upon all aspects of "BMD EXCOM ASW CEB IO Countermeasure Red Flash/Medusa" (program details classified) and Paragon, extending their range, automation, and integration into a coordinated IO weapon system.</p> | | 9.737 0 | 0 |
| <p>Title: Integrated Communications and Data Systems (ICADS)</p> <p align="right">Articles:</p> | | 3.429 0 | 0.939 0 |
| <p>FY 2010 Accomplishments: Integrated Communications and Data System (ICADS) is a non-kinetic capability that can be rapidly developed to counter a serious threat to afloat units. ICADS provides a counter-Intelligence, Surveillance, Reconnaissance (ISR) capability against adversary sensor systems (specific development/capability details are held at a higher classification).</p> <p>FY 2011 Plans: ICADS is a non-kinetic capability that can be rapidly developed to counter a serious threat to afloat units. ICADS provides a counter-ISR capability against adversary sensor systems (specific development/capability details are held at a higher classification).</p> | | - | - |
| <p>Title: Graywing</p> <p align="right">Articles:</p> | | - | - |
| <p>FY 2012 Plans:</p> | | 17.365 0 | 0 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0304785N: <i>Tactical Cryptologic Systems</i> | PROJECT 2134: <i>Shipboard IW Exploit</i> |
|---|--|---|

| B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each) | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| Accelerate development and integration and testing of Graywing capability to operationalize within the Future Year Defense Plan (FYDP). Continue to develop and build Graywing antenna suite. Conduct laboratory and environmental testing for the antenna suite and integration testing of Graywing software with the antenna suite. Conduct integration testing of Graywing Engineering Development Model (EDM) with SSEE Inc E, F and G software. Install EDM and conduct interoperability and integration testing, platform integration efforts and environmental qualifications. Focus on integrating Graywing with SSEE systems as part of "BMD EXCOM ASW CEB IO Countermeasure Red Flash." | | | |
| Note: Funding and developmental efforts for Graywing transferred from PE 0204575N, project unit 2263 beginning in FY12. | | | |
| Accomplishments/Planned Programs Subtotals | 16.845 | 16.554 | 31.740 |

C. Other Program Funding Summary (\$ in Millions)

| Line Item | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---|---------|---------|-----------------|----------------|------------------|---------|---------|---------|---------|---------------------|------------|
| • OPN / 2360: <i>Shipboard IW Exploit</i> | 89.406 | 105.624 | 103.645 | 0.000 | 103.645 | 117.527 | 119.831 | 137.723 | 144.787 | Continuing | Continuing |

D. Acquisition Strategy
Acquisition, management and contracting strategies are to support engineering and manufacturing development by providing funds to a Prime Contractor and Space & Naval Warfare Systems Command (SPAWAR) Systems Center (SSC) - Atlantic, SSC - Pacific and miscellaneous contractors, with management oversight by SPAWAR.

E. Performance Metrics
Ship Signal Exploitation Equipment (SSEE) Inc F achieved Milestone C (MSC) in FY10. SSEE Inc F is scheduled to achieve Full Rate Production (FRP) in FY11.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0304785N: <i>Tactical Cryptologic Systems</i> | PROJECT 2134: <i>Shipboard IW Exploit</i> |
|---|--|---|

| Product Development (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Primary Hardware Development | Various | Various:Various | 73.395 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Primary Hardware Development | WR | SSC PAC:San Diego, CA | - | 1.125 | Nov 2010 | 7.250 | Nov 2011 | - | | 7.250 | Continuing | Continuing | Continuing |
| Systems Engineering | Various | Various:Various | 22.309 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Systems Engineering | C/CPAF | Classified Contract:Classified Contract | - | 0.950 | Nov 2010 | 3.159 | Nov 2011 | - | | 3.159 | Continuing | Continuing | Continuing |
| Systems Engineering | WR | SSC PAC:San Diego, CA | - | 0.750 | Nov 2010 | 1.650 | Nov 2011 | - | | 1.650 | Continuing | Continuing | Continuing |
| Systems Engineering | WR | SSC LANT:Charleston, SC | 1.324 | 1.161 | Nov 2010 | 1.487 | Nov 2011 | - | | 1.487 | Continuing | Continuing | Continuing |
| Training Development | WR | SSC PAC:San Diego, CA | 1.476 | 0.220 | Nov 2010 | 0.613 | Nov 2011 | - | | 0.613 | Continuing | Continuing | Continuing |
| Subtotal | | | 98.504 | 4.206 | | 14.159 | | - | | 14.159 | | | |

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Software Development | Various | Various:Various | 40.776 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Software Development | C/CPAF | Classified Contract:Classified Contract | 6.284 | 5.516 | Nov 2010 | 8.420 | Nov 2011 | - | | 8.420 | Continuing | Continuing | Continuing |
| Software Development | WR | SSC PAC:San Diego, CA | - | 0.392 | Nov 2010 | 0.465 | Nov 2011 | - | | 0.465 | Continuing | Continuing | Continuing |
| Training Development | Various | Various:Various | 0.079 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Training Development | C/CPFF | Classified Contract:Classified Contract | - | 0.445 | Nov 2010 | 0.907 | Nov 2011 | - | | 0.907 | Continuing | Continuing | Continuing |
| Integrated Logistics Support | Various | Various:Various | 2.206 | - | | - | | - | | - | Continuing | Continuing | Continuing |

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0304785N: <i>Tactical Cryptologic Systems</i> | PROJECT 2134: <i>Shipboard IW Exploit</i> |
|---|--|---|

| Support (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---------------------------------|------------------------|--------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Integrated Logistics Support | C/CPFF | Unknown:Unknown | - | - | | 0.300 | Nov 2011 | - | | 0.300 | 0.000 | 0.300 | |
| Configuration Management | WR | SSC Lant:Charleston, SC | 1.336 | 0.054 | Nov 2010 | 0.123 | Nov 2011 | - | | 0.123 | Continuing | Continuing | Continuing |
| Configuration Management | WR | SSC PAC:San Diego, CA | - | 0.113 | Nov 2010 | 0.123 | Nov 2011 | - | | 0.123 | Continuing | Continuing | Continuing |
| Technical Data | Various | Various:Various | 0.542 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Technical Data | WR | SSC PAC:San Diego, CA | - | 0.219 | Nov 2010 | 0.917 | Nov 2011 | - | | 0.917 | 0.000 | 1.136 | |
| Subtotal | | | 51.223 | 6.739 | | 11.255 | | - | | 11.255 | | | |

| Test and Evaluation (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|------------------------|----------------------------------|------------------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Developmental Test & Evaluation | Various | Various:Various | 7.375 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Developmental Test & Evaluation | WR | SSC PAC:San Diego, CA | - | 0.505 | Nov 2010 | 0.925 | Nov 2011 | - | | 0.925 | Continuing | Continuing | Continuing |
| Developmental Test & Evaluation | WR | SSC LANT:Charleston, SC | - | 0.817 | Nov 2010 | 1.128 | Nov 2011 | - | | 1.128 | Continuing | Continuing | Continuing |
| Developmental Test & Evaluation | WR | Washington Labs:Gaithersburg, MD | - | 0.400 | Nov 2010 | 0.776 | Nov 2011 | - | | 0.776 | Continuing | Continuing | Continuing |
| Operational Test & Evaluation | WR | OPTEVFOR:Norfolk, VA | 2.791 | 0.287 | Nov 2010 | 0.395 | Nov 2011 | - | | 0.395 | Continuing | Continuing | Continuing |
| Test Assets | WR | SSC PAC:San Diego, CA | 1.747 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Test Assets | WR | SSC LANT:Charleston, SC | - | 0.070 | Nov 2010 | 0.085 | Nov 2011 | - | | 0.085 | Continuing | Continuing | Continuing |
| Subtotal | | | 11.913 | 2.079 | | 3.309 | | - | | 3.309 | | | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0304785N: <i>Tactical Cryptologic Systems</i> | PROJECT 2134: <i>Shipboard IW Exploit</i> |
|---|--|---|

| Management Services (\$ in Millions) | | | | FY 2011 | | FY 2012 Base | | FY 2012 OCO | | FY 2012 Total | | | |
|---|-----------------------------------|---|-------------------------------|----------------|-------------------|---------------------|-------------------|--------------------|-------------------|----------------------|-------------------------|-------------------|---------------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Total Prior Years Cost | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract |
| Contractor Engineering Support | Various | Various:Various | 0.933 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Contractor Engineering Support | C/CPFF | Classified Contract:Classified Contract | - | 0.952 | Nov 2010 | 0.652 | Nov 2011 | - | | 0.652 | Continuing | Continuing | Continuing |
| Government Engineering Support | Various | Various:Various | 1.290 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Government Engineering Support | WR | SSC LANT:Charleston, SC | - | 0.407 | Nov 2010 | 0.525 | Nov 2011 | - | | 0.525 | Continuing | Continuing | Continuing |
| Government Engineering Support | WR | SSC PAC:San Diego, CA | - | 1.040 | Nov 2010 | 0.668 | Nov 2011 | - | | 0.668 | Continuing | Continuing | Continuing |
| Program Management Support | Various | Various:Various | 16.211 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Program Management Support | C/CPFF | Classified Contract:Classified Contract | - | 0.535 | Nov 2010 | 0.614 | Nov 2011 | - | | 0.614 | Continuing | Continuing | Continuing |
| Program Management Support | WR | SSC LANT:Charleston, SC | - | 0.065 | Nov 2010 | 0.063 | Nov 2011 | - | | 0.063 | Continuing | Continuing | Continuing |
| Travel | WR | SPAWAR:San Diego, CA | 1.570 | 0.531 | Nov 2010 | 0.495 | Nov 2011 | - | | 0.495 | Continuing | Continuing | Continuing |
| Acquisition Workforce | Various | Various:Various | 0.062 | - | | - | | - | | - | Continuing | Continuing | Continuing |
| Subtotal | | | 20.066 | 3.530 | | 3.017 | | - | | 3.017 | | | |
| Project Cost Totals | | | 181.706 | 16.554 | | 31.740 | | - | | 31.740 | | | |

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy

DATE: February 2011

APPROPRIATION/BUDGET ACTIVITY
 1319: *Research, Development, Test & Evaluation, Navy*
 BA 5: *Development & Demonstration (SDD)*

R-1 ITEM NOMENCLATURE
 PE 0304785N: *Tactical Cryptologic Systems*

PROJECT
 2134: *Shipboard IW Exploit*

| Fiscal Year | 2010 | | | | 2011 | | | | 2012 | | | | 2013 | | | | 2014 | | | | 2015 | | | | 2016 | | | |
|---|--|---------------------|---|---|-------------------|-----------------|--------------------------------|---|-------------------|---|---|---|--------------------------|---|-------|---|-------------------|---|---|---|--------------------|---|---|---|--------------------|---|---|---|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Acquisition Milestones | | ▲ MS-C | | | | | △ FRP (Build 5.0) DR | | △ IOC | | | | | | △ MSD | | | | | | | | | | | | | |
| Prototype Phase | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| System Development | | | | | | | △ FRP Decision Contract Option | | | | | | | | | | | | | | | | | | | | | |
| Software Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SSEE Inc F Baseline SW Development | ■ LRIP (Build 5.0) | | | | ■ FRP (Build 6.0) | | | | ■ FRP (Build 7.0) | | | | ■ FRP (Build 8.0) | | | | ■ FRP (Build 9.0) | | | | ■ FRP (Build 10.0) | | | | ■ FRP (Build 11.0) | | | |
| GRAYWING SW Development | | | | | | | | | ■ G/W Development | | | | ■ G/W Integration & Test | | | | | | | | | | | | | | | |
| GRAYWING SW Integration & Testing | | | | | | | | | | | | | ■ | | | | | | | | | | | | | | | |
| Test & Evaluation Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Development Test | ■ IT-B2 | | | | ■ IT-C1 | | ■ IT-C2 | | | | | | | | | | | | | | | | | | | | | |
| Operational Test | ▲ INC F OA | ◆ Decisional Report | | | △ INC F OPEVAL | ◇ OPEVAL Report | | | ◇ FOT&E | | | | | | | | | | | | | | | | | | | |
| Production Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LRIP FY 10 SSEE Inc F | | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FRP FY 11 SSEE Inc F | | | | | | | △ | | | | | | | | | | | | | | | | | | | | | |
| FRP FY 12 SSEE Inc F | | | | | | | | | | | △ | | | | | | | | | | | | | | | | | |
| FRP FY 13 SSEE Inc F | | | | | | | | | | | | | | | △ | | | | | | | | | | | | | |
| FRP FY 14 SSEE Inc F | | | | | | | | | | | | | | | | | | △ | | | | | | | | | | |
| FRP FY 15 SSEE Inc F | | | | | | | | | | | | | | | | | | | | | △ | | | | | | | |
| FRP FY 16 SSEE Inc F | | | | | | | | | | | | | | | | | | | | | | | | △ | | | | |
| Procurements | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Remarks: | 1) Production Milestones reflect contract award dates. | | | | | | | | | | | | | | | | | | | | | | | | | | | |

UNCLASSIFIED

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0304785N: <i>Tactical Cryptologic Systems</i> | PROJECT 2134: <i>Shipboard IW Exploit</i> |
|---|--|---|

| | FY2010 | | | | FY2011 | | | | FY2012 | | | | FY2013 | | | | FY2014 | | | | FY2015 | | | | FY2016 | | | | | | | |
|---|-------------------------------|--|--|--|--------|--|--|--|--------|--|--|--|--------|--|--|--|--------|--|--|--|--------|--|--|--|--------|--|--|--|--|--|--|--|
| | Acquisition Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Prototype Phase | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| System Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SSEE INC G EDM Deliveries | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Software Development SSEE Inc G | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EDM Baseline SW Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GRAYWING SW Integration | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Test & Evaluation Milestones | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Development Test | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operational Test | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0304785N: <i>Tactical Cryptologic Systems</i> | PROJECT 2134: <i>Shipboard IW Exploit</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Proj 2134 | | | | |
| Inc F - Developmental Testing IT-B2 | 1 | 2010 | 2 | 2010 |
| Inc F - Developmental Testing IT-C1 | 4 | 2010 | 1 | 2011 |
| Inc F - Developmental Testing IT-C2 | 2 | 2011 | 3 | 2011 |
| Inc F - Operational Testing Operational Assessment (OA) | 1 | 2010 | 1 | 2010 |
| Inc F - Operational Testing (OT) OPEVAL | 2 | 2011 | 2 | 2011 |
| Inc F - Milestone C - Low Rate Initial Production (LRIP) | 2 | 2010 | 2 | 2010 |
| Inc F - LRIP Contract Award | 2 | 2010 | 2 | 2010 |
| Inc F - Full Rate Production (FRP) Decision | 2 | 2011 | 3 | 2011 |
| Inc F - Operational Test (FOT&E) | 1 | 2012 | 1 | 2012 |
| Inc F - FRP Contract Award | 2 | 2011 | 3 | 2011 |
| Inc F - Initial Operational Capability (IOC) | 1 | 2012 | 1 | 2012 |
| Inc F - Material Support Date (MSD) | 2 | 2013 | 2 | 2013 |
| Inc G - Milestone B (MSB) | 3 | 2012 | 3 | 2012 |
| Inc G - Fequest For Proposal Release (RFP) | 4 | 2012 | 4 | 2012 |
| Inc G - Preliminary Design Review (PDR) | 3 | 2013 | 3 | 2013 |
| Inc G - Critical Design Review (CDR) | 3 | 2014 | 3 | 2014 |
| Inc G - Engineering Development Models (EDM) Deliveries | 2 | 2015 | 2 | 2015 |
| Inc G - Developmental Testing - Design Readiness Review (DRR) | 1 | 2014 | 1 | 2014 |
| Inc G - Developmental Testing IT-B1 | 4 | 2014 | 4 | 2014 |
| Inc G - Developmental Testing - Test Readiness Review (TRR) | 4 | 2014 | 4 | 2014 |
| Inc G - Developmental Testing IT-B2 | 1 | 2015 | 2 | 2015 |

UNCLASSIFIED

UNCLASSIFIED

| | | |
|---|--|---|
| Exhibit R-4A, RDT&E Schedule Details: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0304785N: <i>Tactical Cryptologic Systems</i> | PROJECT 2134: <i>Shipboard IW Exploit</i> |

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Inc G - Operational Assessment (OA) | 2 | 2016 | 2 | 2016 |
| Inc G - Operational Review Decisional Report | 4 | 2016 | 4 | 2016 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0304785N: <i>Tactical Cryptologic Systems</i> | PROJECT 3165: <i>Automatic Identification System (AIS)</i> |
|---|--|--|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|--|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 3165: <i>Automatic Identification System (AIS)</i> | 0.500 | 0.465 | - | - | - | - | - | - | - | 0.000 | 0.965 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Automatic Identification System (AIS) is an International Maritime Very High Frequency Communication system that allows any ship to exchange information (machine to machine) on Navigation (Position, Course, Speed, etc), Ship Info (Ship Name, Call Sign, Length/Beam), and Cargo Info (Draft, Type, Destination, Route, Estimated Time of Arrival) and Messaging (Safety, Text). This technology will improve capability in three diverse areas: (a) Situational Awareness/Common Operational Picture (b) Navigation/Safety of Ship and (c) Other intelligence gathering/correlation. Funding will support the integration of modified Commercial Off-The-Shelf AIS equipment with the existing Global Command and Control - Maritime/Common Operational Picture navigation and bridge display capabilities, surface search / weapons systems and intelligence / Cryptologic capabilities.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2010 | FY 2011 | FY 2012 |
|---|---------|---------|---------|
| Title: Automatic Identification System (AIS) | 0.500 | 0.465 | - |
| Articles: | 0 | 0 | |
| FY 2010 Accomplishments: Funds supported developmental testing and operational testing of submarines and shore site AIS configurations. Funds continued to support AIS interoperability requirements, such as incorporation of AIS into Consolidated Afloat Networks and Enterprise Services (CANES) and AIS interoperability with the Maritime Security and Safety Information System (MSSIS). Funds continued the refinement of the Global AIS architecture, and its relation to the overall United States Navy (USN) Maritime Domain Awareness (MDA) effort and Concept of Operations (CONOP) as well as the National MDA CONOP. | | | |
| FY 2011 Plans: AIS development will be completed in FY11. Complete the incorporation of AIS interoperability requirements, such as AIS CANES configuration. Complete the refinement of the Global AIS architecture, and its relation to the overall USN MDA effort and CONOP as well as the National MDA CONOP. This will provide a secure end-to-end AIS data sharing capability in-line with National MDA CONOPs. | | | |
| Accomplishments/Planned Programs Subtotals | 0.500 | 0.465 | - |

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy | | DATE: February 2011 |
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0304785N: <i>Tactical Cryptologic Systems</i> | PROJECT 3165: <i>Automatic Identification System (AIS)</i> |

C. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> | | | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>FY 2016</u> | <u>Cost To</u> | |
|--|----------------|----------------|----------------|------------|--------------|----------------|----------------|----------------|----------------|-----------------|-------------------|
| | | | <u>Base</u> | <u>OCO</u> | <u>Total</u> | | | | | <u>Complete</u> | <u>Total Cost</u> |
| • OPN / 2361: <i>Automatic Identification System</i> | 0.000 | 1.299 | 1.364 | 0.000 | 1.364 | 0.917 | 0.916 | 0.905 | 0.914 | Continuing | Continuing |
| • OPN / 2360: : <i>Shipboard IW Exploit (AIS only)</i> | 2.399 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 2.399 |

D. Acquisition Strategy

Acquisition management and contracting strategies are to support the integration of Commercial Off-The-Shelf (COTS) Automatic Identification System (AIS) data into the existing and emerging United States Navy Command and Control and Network infrastructure capabilities, navigation and bridge capabilities surface search/ weapons systems and intelligence/cryptologic capabilities. COTS will be procured from a contractor with government over sight from Space and Naval Warfare (SPAWAR) Systems Center (SSC) - Atlantic and SSC - Pacific with management oversight by SPAWAR .

E. Performance Metrics

AIS will incorporate new interoperability requirements in order to provide a secure end-to-end AIS data sharing capability with National Maritime Domain Awareness Concept of Operations.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2012 Navy **DATE:** February 2011

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 5: <i>Development & Demonstration (SDD)</i> | R-1 ITEM NOMENCLATURE PE 0304785N: <i>Tactical Cryptologic Systems</i> | PROJECT 9999: <i>Congressional Adds</i> |
|---|--|---|

| COST (\$ in Millions) | FY 2010 | FY 2011 | FY 2012 Base | FY 2012 OCO | FY 2012 Total | FY 2013 | FY 2014 | FY 2015 | FY 2016 | Cost To Complete | Total Cost |
|---------------------------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 9999: <i>Congressional Adds</i> | 2.390 | - | - | - | - | - | - | - | - | 0.000 | 2.390 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

A. Mission Description and Budget Item Justification

Paragon is a classified Navy tactical signals intelligence frequency extension capability that will be integrated into Ships Signal Exploitation Equipment (SSEE) Inc E and F programs. This capability will provide simultaneous detection, collection, processing, IO and display of communication intelligence data from hostile, high threat and adversary platforms in select frequency ranges that are not prosecuted or countered today.

B. Accomplishments/Planned Programs (\$ in Millions)

| | | |
|---|---------|---------|
| Congressional Add: Paragon System Upgrades | FY 2010 | FY 2011 |
| <i>FY 2010 Accomplishments:</i> Paragon is a classified Navy tactical signals intelligence frequency extension capability that will be integrated into Ships Signal Exploitation Equipment (SSEE) Inc E and F programs. This capability will provide simultaneous detection, collection, processing, IO and display of communication intelligence data from hostile, high threat and adversary platforms in select frequency ranges that are not prosecuted or countered today. | 2.390 | - |
| Congressional Adds Subtotals | 2.390 | - |

C. Other Program Funding Summary (\$ in Millions)

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

Congressional Add.

UNCLASSIFIED

THIS PAGE INTENTIONALLY LEFT BLANK

UNCLASSIFIED