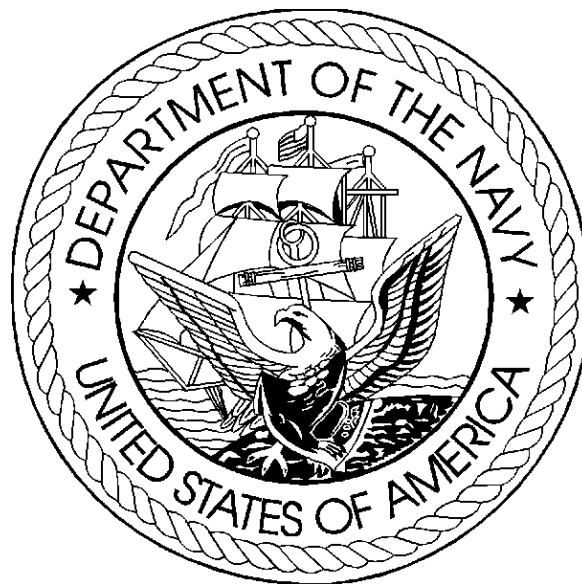


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**Department of Defense
Fiscal Year (FY) 2013 President's Budget Submission**

February 2012



Navy

Justification Book Volume 5

Research, Development, Test & Evaluation, Navy

Budget Activity 7

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Department of Defense Appropriations Act, 2013

Research, Development, Test and Evaluation, Navy

For expenses necessary for basic and applied scientific research, development, test and evaluation, including maintenance, rehabilitation, lease, and operation of facilities and equipment, \$16,882,877,000, to remain available for obligation until September 30, 2014.

For an additional amount for Research, Development, Test and Evaluation, Navy, \$60,119,000, to remain available until September 30, 2014: Provided, That such amounts in this paragraph are designated by the Congress for Overseas Contingency Operations pursuant to section 251(b)(2)(A) of the Balanced Budget and Emergency Deficit Control Act of 1985, as amended.

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Department of the Navy
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Summary Recap of Budget Activities -----	FY 2011 Actuals	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Basic Research	538,716	605,319		605,319
Applied Research	704,164	822,951		822,951
Advanced Technology Development	769,394	692,105		692,105
Advanced Component Development & Prototypes	3,971,685	4,430,747	1,500	4,432,247
System Development & Demonstration	6,309,828	6,263,080	11,050	6,274,130
RDT&E Management Support	1,179,998	838,757		838,757
Operational Systems Development	4,391,753	4,086,616	41,334	4,127,950
Total Research, Development, Test & Evaluation	17,865,538	17,739,575	53,884	17,793,459
 Summary Recap of FYDP Programs -----				
Strategic Forces	118,511	151,960		151,960
General Purpose Forces	1,426,503	1,419,726	7,550	1,427,276
Intelligence and Communications	1,368,028	1,321,973		1,321,973
Research and Development	13,354,716	13,458,494	12,550	13,471,044
Central Supply and Maintenance	65,553	80,477		80,477
Training Medical and Other	4,104			
Administration and Associated Activities	377			
Classified Programs	1,527,746	1,306,945	33,784	1,340,729
Total Research, Development, Test & Evaluation	17,865,538	17,739,575	53,884	17,793,459

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Summary Recap of Budget Activities -----	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Basic Research	605,021		605,021
Applied Research	790,302		790,302
Advanced Technology Development	584,402		584,402
Advanced Component Development & Prototypes	4,335,297	4,600	4,339,897
System Development & Demonstration	5,747,232	2,173	5,749,405
RDT&E Management Support	845,077	5,200	850,277
Operational Systems Development	3,975,546	48,146	4,023,692
Total Research, Development, Test & Evaluation	16,882,877	60,119	16,942,996
Summary Recap of FYDP Programs -----			
Strategic Forces	161,263		161,263
General Purpose Forces	1,422,932	6,762	1,429,694
Intelligence and Communications	1,176,330	7,600	1,183,930
Research and Development	12,883,923	11,973	12,895,896
Central Supply and Maintenance	87,270		87,270
Training Medical and Other			
Administration and Associated Activities			
Classified Programs	1,151,159	33,784	1,184,943
Total Research, Development, Test & Evaluation	16,882,877	60,119	16,942,996

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Department of the Navy
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Appropriation: 1319N Research, Development, Test & Eval, Navy

Line No	Program Element Number	Item	Act	FY 2011 Actuals	FY 2012 Base	FY 2012 OCO	FY 2012 Total	Se c
1	0601103N	University Research Initiatives	01	104,088	133,157		133,157	U
2	0601152N	In-House Laboratory Independent Research	01	18,011	18,092		18,092	U
3	0601153N	Defense Research Sciences	01	416,617	454,070		454,070	U
		Basic Research		538,716	605,319		605,319	
4	0602114N	Power Projection Applied Research	02	100,159	104,796		104,796	U
5	0602123N	Force Protection Applied Research	02	143,063	196,734		196,734	U
6	0602131M	Marine Corps Landing Force Technology	02	42,131	44,745		44,745	U
7	0602235N	Common Picture Applied Research	02	68,155	65,184		65,184	U
8	0602236N	Warfighter Sustainment Applied Research	02	109,716	101,072		101,072	U
9	0602271N	Electromagnetic Systems Applied Research	02	86,966	108,185		108,185	U
10	0602435N	Ocean Warfighting Environment Applied Research	02	47,231	50,076		50,076	U
11	0602651M	Joint Non-Lethal Weapons Applied Research	02	5,762	5,937		5,937	U
12	0602747N	Undersea Warfare Applied Research	02	66,056	108,639		108,639	U
13	0602750N	Future Naval Capabilities Applied Research	02					U
14	0602782N	Mine and Expeditionary Warfare Applied Research	02	34,925	37,583		37,583	U
		Applied Research		704,164	822,951		822,951	
15	0603114N	Power Projection Advanced Technology	03	125,673	114,270		114,270	U
16	0603123N	Force Protection Advanced Technology	03	63,732	45,020		45,020	U
17	0603235N	Common Picture Advanced Technology	03	91,526	48,985		48,985	U
18	0603236N	Warfighter Sustainment Advanced Technology	03	95,045	71,149		71,149	U
19	0603271N	Electromagnetic Systems Advanced Technology	03	94,558	122,458		122,458	U

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

Line No	Program Element Number	Item	Act	FY 2013 Base	FY 2013 OCO	FY 2013 Total	Se
1	0601103N	University Research Initiatives	01	113,690		113,690	U
2	0601152N	In-House Laboratory Independent Research	01	18,261		18,261	U
3	0601153N	Defense Research Sciences	01	473,070		473,070	U
		Basic Research		605,021		605,021	
4	0602114N	Power Projection Applied Research	02	89,189		89,189	U
5	0602123N	Force Protection Applied Research	02	143,301		143,301	U
6	0602131M	Marine Corps Landing Force Technology	02	46,528		46,528	U
7	0602235N	Common Picture Applied Research	02	41,696		41,696	U
8	0602236N	Warfighter Sustainment Applied Research	02	44,127		44,127	U
9	0602271N	Electromagnetic Systems Applied Research	02	78,228		78,228	U
10	0602435N	Ocean Warfighting Environment Applied Research	02	49,635		49,635	U
11	0602651M	Joint Non-Lethal Weapons Applied Research	02	5,973		5,973	U
12	0602747N	Undersea Warfare Applied Research	02	96,814		96,814	U
13	0602750N	Future Naval Capabilities Applied Research	02	162,417		162,417	U
14	0602782N	Mine and Expeditionary Warfare Applied Research	02	32,394		32,394	U
		Applied Research		790,302		790,302	
15	0603114N	Power Projection Advanced Technology	03	56,543		56,543	U
16	0603123N	Force Protection Advanced Technology	03	18,616		18,616	U
17	0603235N	Common Picture Advanced Technology	03				U
18	0603236N	Warfighter Sustainment Advanced Technology	03				U
19	0603271N	Electromagnetic Systems Advanced Technology	03	54,858		54,858	U

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Line No	Program Element Number	Item	Act	FY 2011 Actuals	FY 2012 Base	FY 2012 OCO	FY 2012 Total	Se
20	0603640M	USMC Advanced Technology Demonstration (ATD)	03	110,068	124,115		124,115	U
21	0603651M	Joint Non-Lethal Weapons Technology Development	03	10,832	11,286		11,286	U
22	0603673N	Future Naval Capabilities Advanced Technology Development	03					U
23	0603729N	Warfighter Protection Advanced Technology	03	54,356	56,819		56,819	U
24	0603747N	Undersea Warfare Advanced Technology	03	51,283	41,959		41,959	U
25	0603758N	Navy Warfighting Experiments and Demonstrations	03	51,115	49,996		49,996	U
26	0603782N	Mine and Expeditionary Warfare Advanced Technology	03	21,206	6,048		6,048	U
		Advanced Technology Development		769,394	692,105		692,105	
27	0603128N	Unmanned Aerial System	04	36,000				U
28	0603207N	Air/Ocean Tactical Applications	04	115,072	84,962		84,962	U
29	0603216N	Aviation Survivability	04	9,151	10,893		10,893	U
30	0603237N	Deployable Joint Command and Control	04	3,997	3,702		3,702	U
31	0603251N	Aircraft Systems	04		10,497		10,497	U
32	0603254N	ASW Systems Development	04	7,969	7,896		7,896	U
33	0603261N	Tactical Airborne Reconnaissance	04	6,755	5,944		5,944	U
34	0603382N	Advanced Combat Systems Technology	04	1,613	1,418		1,418	U
35	0603502N	Surface and Shallow Water Mine Countermeasures	04	94,539	127,757		127,757	U
36	0603506N	Surface Ship Torpedo Defense	04	49,625	118,764		118,764	U
37	0603512N	Carrier Systems Development	04	99,704	54,072		54,072	U
38	0603513N	Shipboard System Component Development	04	51				U
39	0603525N	PILOT FISH	04	79,699	95,605		95,605	U

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20	0603640M	USMC Advanced Technology Demonstration (ATD)	03	130,598		130,598	U
21	0603651M	Joint Non-Lethal Weapons Technology Development	03	11,706		11,706	U
22	0603673N	Future Naval Capabilities Advanced Technology Development	03	256,382		256,382	U
23	0603729N	Warfighter Protection Advanced Technology	03	3,880		3,880	U
24	0603747N	Undersea Warfare Advanced Technology	03				U
25	0603758N	Navy Warfighting Experiments and Demonstrations	03	51,819		51,819	U
26	0603782N	Mine and Expeditionary Warfare Advanced Technology	03				U
		Advanced Technology Development		584,402		584,402	
27	0603128N	Unmanned Aerial System	04				U
28	0603207N	Air/Ocean Tactical Applications	04	34,085		34,085	U
29	0603216N	Aviation Survivability	04	8,783		8,783	U
30	0603237N	Deployable Joint Command and Control	04	3,773		3,773	U
31	0603251N	Aircraft Systems	04	24,512		24,512	U
32	0603254N	ASW Systems Development	04	8,090		8,090	U
33	0603261N	Tactical Airborne Reconnaissance	04	5,301		5,301	U
34	0603382N	Advanced Combat Systems Technology	04	1,506		1,506	U
35	0603502N	Surface and Shallow Water Mine Countermeasures	04	190,622		190,622	U
36	0603506N	Surface Ship Torpedo Defense	04	93,346		93,346	U
37	0603512N	Carrier Systems Development	04	108,871		108,871	U
38	0603513N	Shipboard System Component Development	04				U
39	0603525N	PILOT FISH	04	101,169		101,169	U

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Line No	Program Element Number	Item	Act	FY 2011 Actuals	FY 2012 Base	FY 2012 OCO	FY 2012 Total	Se c
40	0603527N	RETRACT LARCH	04	159,117	73,421		73,421	U
41	0603536N	RETRACT JUNIPER	04	127,544	130,153		130,153	U
42	0603542N	Radiological Control	04	1,292	1,338		1,338	U
43	0603553N	Surface ASW	04	44,172	29,787		29,787	U
44	0603561N	Advanced Submarine System Development	04	549,702	861,366		861,366	U
45	0603562N	Submarine Tactical Warfare Systems	04	5,520	9,233		9,233	U
46	0603563N	Ship Concept Advanced Design	04	17,835	14,308		14,308	U
47	0603564N	Ship Preliminary Design & Feasibility Studies	04	10,087	22,210		22,210	U
48	0603570N	Advanced Nuclear Power Systems	04	364,644	463,683		463,683	U
49	0603573N	Advanced Surface Machinery Systems	04	5,295	18,239		18,239	U
50	0603576N	CHALK EAGLE	04	447,620	582,025		582,025	U
51	0603581N	Littoral Combat Ship (LCS)	04	191,613	292,665		292,665	U
52	0603582N	Combat System Integration	04	33,323	34,123		34,123	U
53	0603609N	Conventional Munitions	04	5,333	4,753		4,753	U
54	0603611M	Marine Corps Assault Vehicles	04	214,597	37,000		37,000	U
55	0603635M	Marine Corps Ground Combat/Support System	04	26,899	54,877		54,877	U
56	0603654N	Joint Service Explosive Ordnance Development	04	31,354	33,654	1,500	35,154	U
57	0603658N	Cooperative Engagement	04	57,198	54,783		54,783	U
58	0603713N	Ocean Engineering Technology Development	04	12,715	9,996		9,996	U
59	0603721N	Environmental Protection	04	19,473	21,714		21,714	U
60	0603724N	Navy Energy Program	04	33,124	70,538		70,538	U

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40	0603527N	RETRACT LARCH	04	74,312		74,312	U
41	0603536N	RETRACT JUNIPER	04	90,730		90,730	U
42	0603542N	Radiological Control	04	777		777	U
43	0603553N	Surface ASW	04	6,704		6,704	U
44	0603561N	Advanced Submarine System Development	04	555,123		555,123	U
45	0603562N	Submarine Tactical Warfare Systems	04	9,368		9,368	U
46	0603563N	Ship Concept Advanced Design	04	24,609		24,609	U
47	0603564N	Ship Preliminary Design & Feasibility Studies	04	13,710		13,710	U
48	0603570N	Advanced Nuclear Power Systems	04	249,748		249,748	U
49	0603573N	Advanced Surface Machinery Systems	04	29,897		29,897	U
50	0603576N	CHALK EAGLE	04	509,988		509,988	U
51	0603581N	Littoral Combat Ship (LCS)	04	429,420		429,420	U
52	0603582N	Combat System Integration	04	56,551		56,551	U
53	0603609N	Conventional Munitions	04	7,342		7,342	U
54	0603611M	Marine Corps Assault Vehicles	04	95,182		95,182	U
55	0603635M	Marine Corps Ground Combat/Support System	04	10,496		10,496	U
56	0603654N	Joint Service Explosive Ordnance Development	04	52,331	4,600	56,931	U
57	0603658N	Cooperative Engagement	04	56,512		56,512	U
58	0603713N	Ocean Engineering Technology Development	04	7,029		7,029	U
59	0603721N	Environmental Protection	04	21,080		21,080	U
60	0603724N	Navy Energy Program	04	55,324		55,324	U

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Line No	Program Element Number	Item	Act	FY 2011 Actuals	FY 2012 Base	FY 2012 OCO	FY 2012 Total	S e c
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61	0603725N	Facilities Improvement	04	3,727	3,754		3,754	U
62	0603734N	CHALK CORAL	04	70,284	79,415		79,415	U
63	0603739N	Navy Logistic Productivity	04	4,009	4,137		4,137	U
64	0603746N	RETRACT MAPLE	04	221,725	276,171		276,171	U
65	0603748N	LINK PLUMERIA	04	59,443	52,588		52,588	U
66	0603751N	RETRACT ELM	04	163,393	150,584		150,584	U
67	0603755N	Ship Self Defense - Dem/Val	04	3,422				U
68	0603764N	LINK EVERGREEN	04	48,618	144,985		144,985	U
69	0603787N	Special Processes	04	35,802	43,365		43,365	U
70	0603790N	NATO Research and Development	04	8,888	9,140		9,140	U
71	0603795N	Land Attack Technology	04	899	421		421	U
72	0603851M	Joint Non-Lethal Weapons Testing	04	42,464	40,992		40,992	U
73	0603860N	Joint Precision Approach and Landing Systems - Dem/Val	04	155,538	118,255		118,255	U
74	0603889N	Counterdrug RDT&E Projects	04	8,700				U
75	0603925N	Directed Energy and Electric Weapon Systems	04	7,959				U
76	0604272N	Tactical Air Directional Infrared Countermeasures (TADIRCM)	04	50,166	64,097		64,097	U
77	0604279N	ASE Self-Protection Optimization	04	7,000	697		697	U
78	0604653N	Joint Counter Radio Controlled IED Electronic Warfare (JCREW)	04	68,421	62,044		62,044	U
79	0604659N	Precision Strike Weapons Development Program	04	5,322	3,450		3,450	U
80	0604707N	Space and Electronic Warfare (SEW) Architecture/Engineering Support	04	31,785	33,573		33,573	U
81	0604775N	Defense Rapid Innovation Program	04	104,466				U

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

Line No	Program Element Number	Item	Act	FY 2013 Base	FY 2013 OCO	FY 2013 Total	Se
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61	0603725N	Facilities Improvement	04	3,401		3,401	U
62	0603734N	CHALK CORAL	04	45,966		45,966	U
63	0603739N	Navy Logistic Productivity	04	3,811		3,811	U
64	0603746N	RETRACT MAPLE	04	341,305		341,305	U
65	0603748N	LINK PLUMERIA	04	181,220		181,220	U
66	0603751N	RETRACT ELM	04	174,014		174,014	U
67	0603755N	Ship Self Defense - Dem/Val	04				U
68	0603764N	LINK EVERGREEN	04	68,654		68,654	U
69	0603787N	Special Processes	04	44,487		44,487	U
70	0603790N	NATO Research and Development	04	9,389		9,389	U
71	0603795N	Land Attack Technology	04	16,132		16,132	U
72	0603851M	Joint Non-Lethal Weapons Testing	04	44,994		44,994	U
73	0603860N	Joint Precision Approach and Landing Systems - Dem/Val	04	137,369		137,369	U
74	0603889N	Counterdrug RDT&E Projects	04				U
75	0603925N	Directed Energy and Electric Weapon Systems	04				U
76	0604272N	Tactical Air Directional Infrared Countermeasures (TADIRCM)	04	73,934		73,934	U
77	0604279N	ASE Self-Protection Optimization	04	711		711	U
78	0604653N	Joint Counter Radio Controlled IED Electronic Warfare (JCREW)	04	71,300		71,300	U
79	0604659N	Precision Strike Weapons Development Program	04	5,654		5,654	U
80	0604707N	Space and Electronic Warfare (SEW) Architecture/Engineering Support	04	31,549		31,549	U
81	0604775N	Defense Rapid Innovation Program	04				U

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

Line No	Program Element Number	Item	Act	FY 2011 Actuals	FY 2012 Base	FY 2012 OCO	FY 2012 Total	S e c
82	0604786N	Offensive Anti-Surface Warfare Weapon Development	04					U
83	0605812M	Joint Light Tactical Vehicle (JLTV) Engineering and Manufacturing Development Ph	04					U
84	0303354N	ASW Systems Development - MIP	04	2,150	1,078		1,078	U
85	0303562N	Submarine Tactical Warfare Systems - MIP	04	4,231				U
86	0304270N	Electronic Warfare Development - MIP	04	641	625		625	U
	Advanced Component Development & Prototypes			3,971,685	4,430,747	1,500	4,432,247	
87	0604212N	Other Helo Development	05	51,825	42,651		42,651	U
88	0604214N	AV-8B Aircraft - Eng Dev	05	22,063	30,676		30,676	U
89	0604215N	Standards Development	05	41,991	49,439		49,439	U
90	0604216N	Multi-Mission Helicopter Upgrade Development	05	54,404	17,654		17,654	U
91	0604218N	Air/Ocean Equipment Engineering	05	5,496	5,922		5,922	U
92	0604221N	P-3 Modernization Program	05	3,517	3,417		3,417	U
93	0604230N	Warfare Support System	05	3,685	9,944		9,944	U
94	0604231N	Tactical Command System	05	87,273	77,245		77,245	U
95	0604234N	Advanced Hawkeye	05	168,157	130,994		130,994	U
96	0604245N	H-1 Upgrades	05	58,638	67,569		67,569	U
97	0604261N	Acoustic Search Sensors	05	63,041	48,838		48,838	U
98	0604262N	V-22A	05	42,686	84,477		84,477	U
99	0604264N	Air Crew Systems Development	05	5,914	3,249		3,249	U
100	0604269N	EA-18	05	20,246	17,100		17,100	U
101	0604270N	Electronic Warfare Development	05	78,147	89,418	5,600	95,018	U

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Line No	Program Element Number	Item	Act	FY 2013 Base	FY 2013 OCO	FY 2013 Total	Se
82	0604786N	Offensive Anti-Surface Warfare Weapon Development	04	86,801		86,801	U
83	0605812M	Joint Light Tactical Vehicle (JLTV) Engineering and Manufacturing Development Ph	04	44,500		44,500	U
84	0303354N	ASW Systems Development - MIP	04	13,172		13,172	U
85	0303562N	Submarine Tactical Warfare Systems - MIP	04				U
86	0304270N	Electronic Warfare Development - MIP	04	643		643	U
		Advanced Component Development & Prototypes		4,335,297	4,600	4,339,897	
87	0604212N	Other Helo Development	05	33,978		33,978	U
88	0604214N	AV-8B Aircraft - Eng Dev	05	32,789		32,789	U
89	0604215N	Standards Development	05	84,988		84,988	U
90	0604216N	Multi-Mission Helicopter Upgrade Development	05	6,866		6,866	U
91	0604218N	Air/Ocean Equipment Engineering	05	4,060		4,060	U
92	0604221N	P-3 Modernization Program	05	3,451		3,451	U
93	0604230N	Warfare Support System	05	13,071		13,071	U
94	0604231N	Tactical Command System	05	71,645		71,645	U
95	0604234N	Advanced Hawkeye	05	119,065		119,065	U
96	0604245N	H-1 Upgrades	05	31,105		31,105	U
97	0604261N	Acoustic Search Sensors	05	34,299		34,299	U
98	0604262N	V-22A	05	54,412		54,412	U
99	0604264N	Air Crew Systems Development	05	2,717		2,717	U
100	0604269N	EA-18	05	13,009		13,009	U
101	0604270N	Electronic Warfare Development	05	51,304		51,304	U

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102	0604273N	VH-71A Executive Helo Development	05	147,268	60,751		60,751	U
103	0604274N	Next Generation Jammer (NGJ)	05	83,948	170,910		170,910	U
104	0604280N	Joint Tactical Radio System - Navy (JTRS-Navy)	05	609,159	675,521		675,521	U
105	0604307N	Surface Combatant Combat System Engineering	05	195,569	223,217		223,217	U
106	0604311N	LPD-17 Class Systems Integration	05	1,636	884		884	U
107	0604329N	Small Diameter Bomb (SDB)	05	15,732	29,635		29,635	U
108	0604366N	Standard Missile Improvements	05	93,410	46,705		46,705	U
109	0604373N	Airborne MCM	05	42,519	41,142		41,142	U
110	0604376M	Marine Air Ground Task Force (MAGTF) Electronic Warfare (EW) for Aviation	05					U
111	0604378N	Naval Integrated Fire Control - Counter Air Systems Engineering	05	29,569	24,898		24,898	U
112	0604404N	Unmanned Carrier Launched Airborne Surveillance and Strike (UCLASS) System	05		75,700		75,700	U
113	0604501N	Advanced Above Water Sensors	05	254,778	247,071		247,071	U
114	0604503N	SSN-688 and Trident Modernization	05	100,717	90,180		90,180	U
115	0604504N	Air Control	05	5,511	5,521		5,521	U
116	0604512N	Shipboard Aviation Systems	05	68,438	45,445		45,445	U
117	0604518N	Combat Information Center Conversion	05	4,915	3,400		3,400	U
118	0604558N	New Design SSN	05	166,888	112,158		112,158	U
119	0604562N	Submarine Tactical Warfare System	05	48,269	48,466		48,466	U
120	0604567N	Ship Contract Design/ Live Fire T&E	05	157,828	121,089		121,089	U
121	0604574N	Navy Tactical Computer Resources	05	4,420	3,848		3,848	U

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102	0604273N	VH-71A Executive Helo Development	05	61,163		61,163	U
103	0604274N	Next Generation Jammer (NGJ)	05	187,024		187,024	U
104	0604280N	Joint Tactical Radio System - Navy (JTRS-Navy)	05	337,480		337,480	U
105	0604307N	Surface Combatant Combat System Engineering	05	260,616		260,616	U
106	0604311N	LPD-17 Class Systems Integration	05	824		824	U
107	0604329N	Small Diameter Bomb (SDB)	05	31,064		31,064	U
108	0604366N	Standard Missile Improvements	05	63,891		63,891	U
109	0604373N	Airborne MCM	05	73,246		73,246	U
110	0604376M	Marine Air Ground Task Force (MAGTF) Electronic Warfare (EW) for Aviation	05	10,568		10,568	U
111	0604378N	Naval Integrated Fire Control - Counter Air Systems Engineering	05	39,974		39,974	U
112	0604404N	Unmanned Carrier Launched Airborne Surveillance and Strike (UCLASS) System	05	122,481		122,481	U
113	0604501N	Advanced Above Water Sensors	05	255,516		255,516	U
114	0604503N	SSN-688 and Trident Modernization	05	82,620		82,620	U
115	0604504N	Air Control	05	5,633		5,633	U
116	0604512N	Shipboard Aviation Systems	05	55,826		55,826	U
117	0604518N	Combat Information Center Conversion	05	918		918	U
118	0604558N	New Design SSN	05	165,230		165,230	U
119	0604562N	Submarine Tactical Warfare System	05	49,141		49,141	U
120	0604567N	Ship Contract Design/ Live Fire T&E	05	196,737		196,737	U
121	0604574N	Navy Tactical Computer Resources	05	3,889		3,889	U

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122	0604601N	Mine Development	05	4,399	3,933		3,933	U
123	0604610N	Lightweight Torpedo Development	05	25,852	32,592		32,592	U
124	0604654N	Joint Service Explosive Ordnance Development	05	10,418	9,960	3,500	13,460	U
125	0604703N	Personnel, Training, Simulation, and Human Factors	05	10,098	12,992		12,992	U
126	0604727N	Joint Standoff Weapon Systems	05	12,503	7,506		7,506	U
127	0604755N	Ship Self Defense (Detect & Control)	05	48,526	71,222		71,222	U
128	0604756N	Ship Self Defense (Engage: Hard Kill)	05	35,284	6,631		6,631	U
129	0604757N	Ship Self Defense (Engage: Soft Kill/EW)	05	90,484	184,087		184,087	U
130	0604761N	Intelligence Engineering	05	15,831	2,196		2,196	U
131	0604771N	Medical Development	05	28,407	31,084	1,950	33,034	U
132	0604777N	Navigation/ID System	05	58,727	39,331		39,331	U
133	0604800M	Joint Strike Fighter (JSF) - EMD	05	602,142	651,786		651,786	U
134	0604800N	Joint Strike Fighter (JSF) - EMD	05	654,198	658,549		658,549	U
135	0605013M	Information Technology Development	05	22,048	19,461		19,461	U
136	0605013N	Information Technology Development	05	27,976	29,760		29,760	U
137	0605018N	Navy Integrated Military Human Resources System (N-IMHRS)	05	14,965	55,017		55,017	U
138	0605212N	CH-53K RDTE	05	558,152	624,461		624,461	U
139	0605450N	Joint Air-to-Ground Missile (JAGM)	05	80,911	108,395		108,395	U
140	0605500N	Multi-Mission Maritime Aircraft (MMA)	05	907,465	618,684		618,684	U
141	0204202N	DDG-1000	05	348,763	257,580		257,580	U
142	0304231N	Tactical Command System - MIP	05	1,311	979		979	U

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122	0604601N	Mine Development	05	8,335		8,335	U
123	0604610N	Lightweight Torpedo Development	05	49,818		49,818	U
124	0604654N	Joint Service Explosive Ordnance Development	05	10,099		10,099	U
125	0604703N	Personnel, Training, Simulation, and Human Factors	05	7,348		7,348	U
126	0604727N	Joint Standoff Weapon Systems	05	5,518		5,518	U
127	0604755N	Ship Self Defense (Detect & Control)	05	87,662		87,662	U
128	0604756N	Ship Self Defense (Engage: Hard Kill)	05	64,079		64,079	U
129	0604757N	Ship Self Defense (Engage: Soft Kill/EW)	05	151,489		151,489	U
130	0604761N	Intelligence Engineering	05				U
131	0604771N	Medical Development	05	12,707	2,173	14,880	U
132	0604777N	Navigation/ID System	05	47,764		47,764	U
133	0604800M	Joint Strike Fighter (JSF) - EMD	05	737,149		737,149	U
134	0604800N	Joint Strike Fighter (JSF) - EMD	05	743,926		743,926	U
135	0605013M	Information Technology Development	05	12,143		12,143	U
136	0605013N	Information Technology Development	05	72,209		72,209	U
137	0605018N	Navy Integrated Military Human Resources System (N-IMHRS)	05				U
138	0605212N	CH-53K RDTE	05	606,204		606,204	U
139	0605450N	Joint Air-to-Ground Missile (JAGM)	05				U
140	0605500N	Multi-Mission Maritime Aircraft (MMA)	05	421,102		421,102	U
141	0204202N	DDG-1000	05	124,655		124,655	U
142	0304231N	Tactical Command System - MIP	05	1,170		1,170	U

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143	0304503N	SSN-688 and Trident Modernization - MIP	05	1,408				U
144	0304785N	Tactical Cryptologic Systems	05	12,303	31,740		31,740	U
145	0305124N	Special Applications Program	05		100,000		100,000	U
		System Development & Demonstration		6,309,828	6,263,080	11,050	6,274,130	
146	0604256N	Threat Simulator Development	06	18,353	28,318		28,318	U
147	0604258N	Target Systems Development	06	68,293	44,700		44,700	U
148	0604759N	Major T&E Investment	06	37,331	37,957		37,957	U
149	0605126N	Joint Theater Air and Missile Defense Organization	06		2,970		2,970	U
150	0605152N	Studies and Analysis Support - Navy	06	9,451	17,435		17,435	U
151	0605154N	Center for Naval Analyses	06	45,582	42,751		42,751	U
152	0605502N	Small Business Innovative Research	06	320,547	10		10	U
153	0605804N	Technical Information Services	06	1,147	571		571	U
154	0605853N	Management, Technical & International Support	06	58,588	58,162		58,162	U
155	0605856N	Strategic Technical Support	06	3,335	3,277		3,277	U
156	0605861N	RDT&E Science and Technology Management	06	72,161	73,917		73,917	U
157	0605863N	RDT&E Ship and Aircraft Support	06	100,759	136,531		136,531	U
158	0605864N	Test and Evaluation Support	06	376,563	335,357		335,357	U
159	0605865N	Operational Test and Evaluation Capability	06	15,592	16,634		16,634	U
160	0605866N	Navy Space and Electronic Warfare (SEW) Support	06	9,140	4,223		4,223	U
161	0605867N	SEW Surveillance/Reconnaissance Support	06	19,600	7,642		7,642	U
162	0605873M	Marine Corps Program Wide Support	06	17,225	25,538		25,538	U

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143	0304503N	SSN-688 and Trident Modernization - MIP	05				U
144	0304785N	Tactical Cryptologic Systems	05	23,255		23,255	U
145	0305124N	Special Applications Program	05				U
		System Development & Demonstration		5,747,232	2,173	5,749,405	
146	0604256N	Threat Simulator Development	06	30,790		30,790	U
147	0604258N	Target Systems Development	06	59,221		59,221	U
148	0604759N	Major T&E Investment	06	35,894		35,894	U
149	0605126N	Joint Theater Air and Missile Defense Organization	06	7,573		7,573	U
150	0605152N	Studies and Analysis Support - Navy	06	20,963		20,963	U
151	0605154N	Center for Naval Analyses	06	46,856		46,856	U
152	0605502N	Small Business Innovative Research	06				U
153	0605804N	Technical Information Services	06	796		796	U
154	0605853N	Management, Technical & International Support	06	32,782		32,782	U
155	0605856N	Strategic Technical Support	06	3,306		3,306	U
156	0605861N	RDT&E Science and Technology Management	06	70,302		70,302	U
157	0605863N	RDT&E Ship and Aircraft Support	06	144,033		144,033	U
158	0605864N	Test and Evaluation Support	06	342,298		342,298	U
159	0605865N	Operational Test and Evaluation Capability	06	16,399		16,399	U
160	0605866N	Navy Space and Electronic Warfare (SEW) Support	06	4,579	5,200	9,779	U
161	0605867N	SEW Surveillance/Reconnaissance Support	06	8,000		8,000	U
162	0605873M	Marine Corps Program Wide Support	06	18,490		18,490	U

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163	0305885N	Tactical Cryptologic Activities	06	1,850	2,764		2,764	U
164	0804758N	Service Support to JFCOM, JNTC	06	4,104				U
165	0909999N	Financing for Cancelled Account Adjustments	06	377				U
	RDT&E	Management Support		1,179,998	838,757		838,757	
167	0604402N	Unmanned Combat Air Vehicle (UCAV) Advanced Component and Prototype Development	07	258,069	198,251		198,251	U
168	0604717M	Marine Corps Combat Services Support	07		400		400	U
169	0604766M	Marine Corps Data Systems	07		1,650		1,650	U
170	0101221N	Strategic Sub & Weapons System Support	07	68,575	88,873		88,873	U
171	0101224N	SSBN Security Technology Program	07	33,824	33,519		33,519	U
172	0101226N	Submarine Acoustic Warfare Development	07	6,620	6,360		6,360	U
173	0101402N	Navy Strategic Communications	07	9,492	23,208		23,208	U
174	0203761N	Rapid Technology Transition (RTT)	07	33,948	30,005		30,005	U
175	0204136N	F/A-18 Squadrons	07	143,560	145,091	2,000	147,091	U
176	0204152N	E-2 Squadrons	07	20,774	6,687		6,687	U
177	0204163N	Fleet Telecommunications (Tactical)	07	27,321	1,739		1,739	U
178	0204228N	Surface Support	07		3,377		3,377	U
179	0204229N	Tomahawk and Tomahawk Mission Planning Center (TMPC)	07	10,352	8,819		8,819	U
180	0204311N	Integrated Surveillance System	07	28,161	21,259		21,259	U
181	0204413N	Amphibious Tactical Support Units (Displacement Craft)	07	4,315	5,214		5,214	U
182	0204460M	Ground/Air Task Oriented Radar (G/ATOR)	07					U
183	0204571N	Consolidated Training Systems Development	07	39,792	42,244		42,244	U

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163	0305885N	Tactical Cryptologic Activities	06	2,795		2,795	U
164	0804758N	Service Support to JFCOM, JNTC	06				U
165	0909999N	Financing for Cancelled Account Adjustments	06				U
	RDT&E	Management Support		845,077	5,200	850,277	
167	0604402N	Unmanned Combat Air Vehicle (UCAV) Advanced Component and Prototype Development	07	142,282		142,282	U
168	0604717M	Marine Corps Combat Services Support	07				U
169	0604766M	Marine Corps Data Systems	07				U
170	0101221N	Strategic Sub & Weapons System Support	07	105,892		105,892	U
171	0101224N	SSBN Security Technology Program	07	34,729		34,729	U
172	0101226N	Submarine Acoustic Warfare Development	07	1,434		1,434	U
173	0101402N	Navy Strategic Communications	07	19,208		19,208	U
174	0203761N	Rapid Technology Transition (RTT)	07	25,566		25,566	U
175	0204136N	F/A-18 Squadrons	07	188,299		188,299	U
176	0204152N	E-2 Squadrons	07	8,610		8,610	U
177	0204163N	Fleet Telecommunications (Tactical)	07	15,695		15,695	U
178	0204228N	Surface Support	07	4,171		4,171	U
179	0204229N	Tomahawk and Tomahawk Mission Planning Center (TMPC)	07	11,265		11,265	U
180	0204311N	Integrated Surveillance System	07	45,922		45,922	U
181	0204413N	Amphibious Tactical Support Units (Displacement Craft)	07	8,435		8,435	U
182	0204460M	Ground/Air Task Oriented Radar (G/ATOR)	07	75,088		75,088	U
183	0204571N	Consolidated Training Systems Development	07	20,229		20,229	U

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184	0204574N	Cryptologic Direct Support	07	1,511	1,447		1,447	U
185	0204575N	Electronic Warfare (EW) Readiness Support	07	47,973	18,142		18,142	U
186	0205601N	HARM Improvement	07	73,189	11,147		11,147	U
187	0205604N	Tactical Data Links	07	28,241	69,189		69,189	U
188	0205620N	Surface ASW Combat System Integration	07	29,983	29,472		29,472	U
189	0205632N	MK-48 ADCAP	07	33,912	46,759		46,759	U
190	0205633N	Aviation Improvements	07	90,987	100,415		100,415	U
191	0205658N	Navy Science Assistance Program	07	3,503	1,957		1,957	U
192	0205675N	Operational Nuclear Power Systems	07	73,851	82,705		82,705	U
193	0206313M	Marine Corps Communications Systems	07	227,604	320,123	1,500	321,623	U
194	0206623M	Marine Corps Ground Combat/Supporting Arms Systems	07	77,623	159,396		159,396	U
195	0206624M	Marine Corps Combat Services Support	07	52,480	27,072		27,072	U
196	0206625M	USMC Intelligence/Electronic Warfare Systems (MIP)	07	21,658	14,101	4,050	18,151	U
197	0207161N	Tactical AIM Missiles	07	906	8,765		8,765	U
198	0207163N	Advanced Medium Range Air-to-Air Missile (AMRAAM)	07	2,588	2,913		2,913	U
199	0208058N	Joint High Speed Vessel (JHSV)	07	3,508	4,108		4,108	U
204	0303109N	Satellite Communications (SPACE)	07	410,015	263,439		263,439	U
205	0303138N	Consolidated Afloat Network Enterprise Services (CANES)	07	42,417	24,855		24,855	U
206	0303140N	Information Systems Security Program	07	24,988	37,196		37,196	U
207	0303150M	WWMCCS/Global Command and Control System	07		1,250		1,250	U
208	0303238N	Consolidated Afloat Network Enterprise Services (CANES) - MIP	07	9,334	6,602		6,602	U

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Line No	Program Element Number	Item	Act	FY 2013 Base	FY 2013 OCO	FY 2013 Total	Se
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184	0204574N	Cryptologic Direct Support	07	1,756		1,756	U
185	0204575N	Electronic Warfare (EW) Readiness Support	07	19,843		19,843	U
186	0205601N	HARM Improvement	07	11,477		11,477	U
187	0205604N	Tactical Data Links	07	118,818		118,818	U
188	0205620N	Surface ASW Combat System Integration	07	27,342		27,342	U
189	0205632N	MK-48 ADCAP	07	28,717		28,717	U
190	0205633N	Aviation Improvements	07	89,157		89,157	U
191	0205658N	Navy Science Assistance Program	07	3,450		3,450	U
192	0205675N	Operational Nuclear Power Systems	07	86,435		86,435	U
193	0206313M	Marine Corps Communications Systems	07	219,054		219,054	U
194	0206623M	Marine Corps Ground Combat/Supporting Arms Systems	07	181,693		181,693	U
195	0206624M	Marine Corps Combat Services Support	07	58,393	6,762	65,155	U
196	0206625M	USMC Intelligence/Electronic Warfare Systems (MIP)	07	22,966		22,966	U
197	0207161N	Tactical AIM Missiles	07	21,107		21,107	U
198	0207163N	Advanced Medium Range Air-to-Air Missile (AMRAAM)	07	2,857		2,857	U
199	0208058N	Joint High Speed Vessel (JHSV)	07	1,932		1,932	U
204	0303109N	Satellite Communications (SPACE)	07	188,482		188,482	U
205	0303138N	Consolidated Afloat Network Enterprise Services (CANES)	07	16,749		16,749	U
206	0303140N	Information Systems Security Program	07	26,307		26,307	U
207	0303150M	WWMCCS/Global Command and Control System	07	500		500	U
208	0303238N	Consolidated Afloat Network Enterprise Services (CANES) - MIP	07				U

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 (Dollars in Thousands)

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

Line No	Program Element Number	Item	Act	FY 2011 Actuals	FY 2012 Base	FY 2012 OCO	FY 2012 Total	Se c
210	0305149N	COBRA JUDY	07	36,278	40,605		40,605	U
211	0305160N	Navy Meteorological and Ocean Sensors-Space (METOC)	07	38,795	904		904	U
212	0305192N	Military Intelligence Program (MIP) Activities	07	4,412	4,099		4,099	U
213	0305204N	Tactical Unmanned Aerial Vehicles	07	20,480	9,353		9,353	U
214	0305206N	Airborne Reconnaissance Systems	07	49,945	20,000		20,000	U
215	0305207N	Manned Reconnaissance Systems	07	17,565				U
216	0305208M	Distributed Common Ground/Surface Systems	07	8,334	23,785		23,785	U
217	0305208N	Distributed Common Ground/Surface Systems	07	16,549	25,453		25,453	U
218	0305220N	RQ-4 UAV	07	525,552	548,267		548,267	U
219	0305231N	MQ-8 UAV	07	67,048	108,248		108,248	U
220	0305232M	RQ-11 UAV	07	509	979		979	U
221	0305233N	RQ-7 UAV	07	25,229	872		872	U
222	0305234M	Small (Level 0) Tactical UAS (STUASL0)	07	26,076				U
223	0305234N	Small (Level 0) Tactical UAS (STUASL0)	07	12,645	21,387		21,387	U
224	0305237N	Medium Range Maritime UAS	07		15,000		15,000	U
225	0305239M	RQ-21A	07		24,201		24,201	U
226	0308601N	Modeling and Simulation Support	07	7,963	8,292		8,292	U
227	0702207N	Depot Maintenance (Non-IF)	07	17,750	21,446		21,446	U
228	0702239N	Avionics Component Improvement Program	07	3,177				U
229	0708011N	Industrial Preparedness	07	44,626	54,031		54,031	U

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 (Dollars in Thousands)

18 Jan 2012

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

Line No	Program Element Number	Item	Act	FY 2013 Base	FY 2013 OCO	FY 2013 Total	Se
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210	0305149N	COBRA JUDY	07	17,091		17,091	U
211	0305160N	Navy Meteorological and Ocean Sensors-Space (METOC)	07	810		810	U
212	0305192N	Military Intelligence Program (MIP) Activities	07	8,617		8,617	U
213	0305204N	Tactical Unmanned Aerial Vehicles	07	9,066		9,066	U
214	0305206N	Airborne Reconnaissance Systems	07				U
215	0305207N	Manned Reconnaissance Systems	07	30,654		30,654	U
216	0305208M	Distributed Common Ground/Surface Systems	07	25,917		25,917	U
217	0305208N	Distributed Common Ground/Surface Systems	07	14,676		14,676	U
218	0305220N	RQ-4 UAV	07	657,483		657,483	U
219	0305231N	MQ-8 UAV	07	99,600		99,600	U
220	0305232M	RQ-11 UAV	07	495		495	U
221	0305233N	RQ-7 UAV	07	863	7,600	8,463	U
222	0305234M	Small (Level 0) Tactical UAS (STUASL0)	07				U
223	0305234N	Small (Level 0) Tactical UAS (STUASL0)	07	9,734		9,734	U
224	0305237N	Medium Range Maritime UAS	07				U
225	0305239M	RQ-21A	07	22,343		22,343	U
226	0308601N	Modeling and Simulation Support	07	5,908		5,908	U
227	0702207N	Depot Maintenance (Non-IF)	07	27,391		27,391	U
228	0702239N	Avionics Component Improvement Program	07				U
229	0708011N	Industrial Preparedness	07	54,879		54,879	U

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

Line No	Element Number	Program Item	Act	FY 2011 Actuals	FY 2012 Base	FY 2012 OCO	FY 2012 Total	Se
230	0708730N	Maritime Technology (MARITECH)	07		5,000		5,000	U
9999	9999999999	Classified Programs		1,527,746	1,306,945	33,784	1,340,729	U
		Operational Systems Development		4,391,753	4,086,616	41,334	4,127,950	
Total Research, Development, Test & Eval, Navy				17,865,538	17,739,575	53,884	17,793,459	

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

Line	Program Element No Number	Item	Act	FY 2013 Base	FY 2013 OCO	FY 2013 Total	S e c
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230	0708730N	Maritime Technology (MARITECH)	07	5,000		5,000	U
9999	99999999999	Classified Programs		1,151,159	33,784	1,184,943	U
		Operational Systems Development		3,975,546	48,146	4,023,692	
				-----	-----	-----	
		Total Research, Development, Test & Eval, Navy		16,882,877	60,119	16,942,996	

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Appropriation 1319: Research, Development, Test & Evaluation, Navy***

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174	07	0203761N	Rapid Technology Transition (RTT).....	Volume 5 - 81
175	07	0204136N	F/A-18 Squadrons.....	Volume 5 - 103
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177	07	0204163N	Fleet Tactical Development.....	Volume 5 - 151
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***Budget Activity 07: Operational Systems Development
Appropriation 1319: Research, Development, Test & Evaluation, Navy***

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184	07	0204574N	Cryptologic Direct Support.....	Volume 5 - 263
185	07	0204575N	Elect Warfare Readiness Supt.....	Volume 5 - 273
186	07	0205601N	Harm Improvement.....	Volume 5 - 285
187	07	0205604N	Tactical Data Links.....	Volume 5 - 315
188	07	0205620N	Surface ASW Cmbt Sys Integr.....	Volume 5 - 343
189	07	0205632N	MK-48 ADCAP.....	Volume 5 - 357
190	07	0205633N	Aviation Improvements.....	Volume 5 - 367
191	07	0205658N	Navy Science Assistance Progr.....	Volume 5 - 419
192	07	0205675N	Operational Nuclear Power Sys.....	Volume 5 - 429
193	07	0206313M	Marine Corps Comms Systems.....	Volume 5 - 431
194	07	0206623M	MC Ground Cmbt Spt Arms Sys.....	Volume 5 - 571
195	07	0206624M	Marine Corps Cmbt Services Supt.....	Volume 5 - 669
196	07	0206625M	USMC Intelligence/Electronics Warfare Sys.....	Volume 5 - 729
197	07	0207161N	Tactical Aim Missiles.....	Volume 5 - 761
198	07	0207163N	AMRAAM.....	Volume 5 - 777
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***Budget Activity 07: Operational Systems Development
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206	07	0303140N	Information Sys Security Program.....	Volume 5 - 849
207	07	0303150M	WWMCCS/GLOBAL COMMAND AND CONTROL SYSTEM.....	Volume 5 - 889
208	07	0303238N	Consolidated Afloat Network Ent SVCS(CANES)-MIP.....	Volume 5 - 897
210	07	0305149N	Cobra Judy.....	Volume 5 - 903
211	07	0305160N	Navy Meteorological and Ocean Sensors-Space(METOC).....	Volume 5 - 913
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218	07	0305220N	RQ-4 UAV.....	Volume 5 - 967
219	07	0305231N	MQ-8 UAV.....	Volume 5 - 977
220	07	0305232M	RQ-11 UAV.....	Volume 5 - 989
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***Budget Activity 07: Operational Systems Development
Appropriation 1319: Research, Development, Test & Evaluation, Navy***

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226	07	0308601N	Modeling & Simulation Support.....	Volume 5 - 1035
227	07	0702207N	Depot Maintenance (NON-IF).....	Volume 5 - 1045
228	07	0702239N	Avionics Component Improvement Program.....	Volume 5 - 1059
229	07	0708011N	Industrial Preparedness.....	Volume 5 - 1063
230	07	0708730N	Maritime Tech (MARITECH).....	Volume 5 - 1077

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Consolidated Trng Sys Dev	0204571N	183	07.....Volume 5 -	215
Cryptologic Direct Support	0204574N	184	07.....Volume 5 -	263
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Fleet Tactical Development	0204163N	177	07.....Volume 5 -	151
Ground/Air Task Oriented Radar (G/ATOR)	0204460M	182	07.....Volume 5 -	207
Harm Improvement	0205601N	186	07.....Volume 5 -	285
Industrial Preparedness	0708011N	229	07.....Volume 5 -	1063
Information Sys Security Program	0303140N	206	07.....Volume 5 -	849
Integrated Surveillance System	0204311N	180	07.....Volume 5 -	183
JT Military Intel Programs	0305192N	212	07.....Volume 5 -	919
Joint High Speed Vessel (JHSV)	0208058N	199	07.....Volume 5 -	787
MC Ground Cmbt Spt Arms Sys	0206623M	194	07.....Volume 5 -	571
MK-48 ADCAP	0205632N	189	07.....Volume 5 -	357
MQ-8 UAV	0305231N	219	07.....Volume 5 -	977
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Marine Corps Cmbt Services Supt	0206624M	195	07.....Volume 5 -	669
Marine Corps Comms Systems	0206313M	193	07.....Volume 5 -	431
Maritime Tech (MARITECH)	0708730N	230	07.....Volume 5 -	1077
Medium Range Maritime UAS	0305237N	224	07.....Volume 5 -	1019
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Navy Strategic Comms	0101402N	173	07.....	Volume 5 - 59
Operational Nuclear Power Sys	0205675N	192	07.....	Volume 5 - 429
RQ-11 UAV	0305232M	220	07.....	Volume 5 - 989
RQ-4 UAV	0305220N	218	07.....	Volume 5 - 967
RQ-7 UAV	0305233N	221	07.....	Volume 5 - 993
Rapid Technology Transition (RTT)	0203761N	174	07.....	Volume 5 - 81
SSBN Security Tech Program	0101224N	171	07.....	Volume 5 - 49
Satellite Communications (Space)	0303109N	204	07.....	Volume 5 - 801
Small (LEVEL 0) Tactical UAS (STUASL0)	0305234N	223	07.....	Volume 5 - 1011
Strategic Sub & Wpns Sys Supt	0101221N	170	07.....	Volume 5 - 25
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Surface Support	0204228N	178	07.....	Volume 5 - 167
Tactical Aim Missiles	0207161N	197	07.....	Volume 5 - 761
Tactical Data Links	0205604N	187	07.....	Volume 5 - 315
Tactical Unmanned Aer Vehicles	0305204N	213	07.....	Volume 5 - 921
Tomahawk Mssn Planning Ctr	0204229N	179	07.....	Volume 5 - 173
USMC Intelligence/Electronics Warfare Sys	0206625M	196	07.....	Volume 5 - 729

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Program Element Title	Program Element Number	Line Item	Budget Activity	Page
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WWMCCS/GLOBAL COMMAND AND CONTROL SYSTEM	0303150M	207	07.....	Volume 5 - 889

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0604402N: <i>Unmanned Combat Air Veh(UCAV) Adv Cp/Proto Dev</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	258.069	198.251	142.282	-	142.282	41.158	-	-	-	0.000	639.760
3178: <i>Unmanned Combat Air System CV-Demo (UCAS-D)</i>	230.797	198.251	142.282	-	142.282	41.158	-	-	-	0.000	612.488
3191: <i>UCAS Technical Maturation</i>	27.272	-	-	-	-	-	-	-	-	0.000	27.272

A. Mission Description and Budget Item Justification

The 2005 Quadrennial Defense Review published February 2006 and OSD Advanced Technology & Logistics Executive Committee Memorandum of February 2006 supported direction to restructure the Joint Unmanned Combat Air System (UCAS) program into a new Navy UCAS program. The Navy UCAS program will develop an unmanned, longer-range, carrier-based aircraft capable of being air-refueled to provide greater standoff capability, to expand payload and launch options, and to increase naval reach and persistence. The Navy was directed to demonstrate carrier operations, including Autonomous Aerial Refueling, of a Low Observable (LO) planform UCAS and to mature required technologies to a Technology Readiness Level-6; which, is required for a potential follow on acquisition program.

The Navy UCAS designed for autonomous launch and recovery as well as operations in the Carrier Control Area, is comprised of an Air Vehicle Segment, a Mission Control Segment (MCS) and a government led Aircraft Carrier Integration Segment. The scope of the Navy UCAS effort includes design, development, integration, and validation of an unmanned, LO planform Air Vehicle Segment and MCS in the land-based and shipboard environments. Evaluations will be conducted to investigate MCS interfaces with shipboard systems such as Primary Flight Control displays, Landing Safety Officer displays, and Carrier Air Traffic Control Center stations.

The Navy UCAS program will be structured to match program resources to United States Navy objectives and constraints with the goals of identifying and maturing critical technologies and reducing the risk of carrier integration of a UCAS. Candidate Technology Maturation efforts include transformational communications, advanced integrated propulsion, aircraft carrier suitable materials, LO sensors and apertures, sense and avoid functionality (in an LO environment), autonomous operations (software algorithms and interfaces), and computer resource data storage and access systems. Modeling, simulation, analysis, industrial capability assessments, system/component development, and analysis of architectures and concept designs are being developed as a result of the demonstration. Maturation of candidate technologies support the evaluation of alternatives needed for a future milestone decision.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE
1319: <i>Research, Development, Test & Evaluation, Navy</i>	PE 0604402N: <i>Unmanned Combat Air Veh(UCAV) Adv Cp/Proto Dev</i>
BA 7: <i>Operational Systems Development</i>	

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	266.368	198.298	143.142	-	143.142
Current President's Budget	258.069	198.251	142.282	-	142.282
Total Adjustments	-8.299	-0.047	-0.860	-	-0.860
• Congressional General Reductions	-	-0.047			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-6.904	-			
• Program Adjustments	-	-	-1.024	-	-1.024
• Rate/Misc Adjustments	-	-	0.164	-	0.164
• Congressional General Reductions Adjustments	-1.395	-	-	-	-

Change Summary Explanation

Technical: N/A

Schedule: N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0604402N: <i>Unmanned Combat Air Veh(UCAV) Adv Cp/Proto Dev</i>				PROJECT 3178: <i>Unmanned Combat Air System CV-Demo (UCAS-D)</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
3178: <i>Unmanned Combat Air System CV-Demo (UCAS-D)</i>	230.797	198.251	142.282	-	142.282	41.158	-	-	-	0.000	612.488
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Navy Unmanned Combat Air System (UCAS), designed for autonomous launch and recovery as well as operations in the Carrier Control Area, is comprised of an Air Vehicle Segment, a Mission Control Segment (MCS) and a government led Aircraft Carrier Integration Segment. The scope of the Navy UCAS effort includes design, development, integration, and validation of an unmanned, Low Observable (LO) planform Air Vehicle Segment and MCS in the land-based and shipboard environments. Evaluations will be conducted to investigate MCS interfaces with shipboard systems such as Primary Flight Control displays, Landing Safety Officer (LSO) displays, and Carrier Air Traffic Control Center (CATCC) stations.

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

	FY 2011	FY 2012	FY 2013
Title: Product Development	208.357	168.497	122.721
Articles:	0	0	0
Description: The primary effort in the Navy UCAS program is design, development, integration and validation of Air Vehicle Segment, MCS and government led Aircraft Carrier Segment leading to a Carrier demonstration of an unmanned, LO planform UCAS system, and development of internal/external interface documents. In addition, design and development of hardware/software to support Autonomous Aerial Refueling (AAR) will be conducted. Shipboard evaluation of the Navy UCAS includes integration of the Navy UCAS with shipboard systems such as Primary Flight Control displays, LSO displays and CATCC stations.			
FY 2011 Accomplishments: Continued efforts in the Navy UCAS program designing, developing, integrating and validating the Navy UCAS Air Vehicle Segment, MCS and government led Aircraft Carrier Integration Segment. Completed integration and checkout of Air Vehicle 2. Installed UCAS-D shipboard components on Nimitz class aircraft carrier. Continued design and development of hardware/software to support AAR.			
FY 2012 Plans: Continue efforts in the Navy UCAS program designing, developing, integrating and validating the Navy UCAS Air Vehicle Segment, MCS and government led Aircraft Carrier Integration Segment. Installation of UCAS-D shipboard components on Nimitz class aircraft carrier. Continue AAR integration efforts.			
FY 2013 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0604402N: <i>Unmanned Combat Air Veh(UCAV) Adv Cp/Proto Dev</i>	PROJECT 3178: <i>Unmanned Combat Air System CV-Demo (UCAS-D)</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
Continue efforts in the Navy Unmanned Combat Air System (UCAS) program designing, developing, integrating and validating the Navy UCAS Air Vehicle Segment, Mission Control Segment and government led Aircraft Carrier Integration Segment. Finalize temporary installations of UCAS-D shipboard components on Nimitz class aircraft carrier. Continue AAR integration efforts.				
Title: Test and Evaluation Support				
Articles:		10.897 0	15.443 0	8.650 0
FY 2011 Accomplishments: Air Vehicle 1 successfully completed 3-flight initial envelope expansion testing at Edwards AFB. Air Vehicle 2 conducted its first flight and conducted airworthiness and envelope expansion testing at Edwards AFB. Conducted verification testing of the CVN Segment. Demonstrated autonomous systems operation and precision navigation capability at NAWCAD and on a Nimitz class aircraft carrier with surrogate aircraft.				
FY 2012 Plans: After airworthiness and envelope expansion test completion, Air Vehicles 1 and 2 will transfer to NAWCAD Patuxent River, MD for shore-based carrier suitability testing. Conduct shore-based carrier suitability testing with Air Vehicles 1 and 2. Conduct the final verification testing of the CVN segment.				
FY 2013 Plans: Continue shore-based carrier suitability testing with Air Vehicles 1 and 2 at NAWCAD Patuxent River, MD. Conduct Sea Trial testing, including ship landings, for Air Vehicles 1 and 2 aboard a Nimitz class aircraft carrier.				
Title: Management				
Articles:		11.543 0	14.311 0	10.911 0
FY 2011 Accomplishments: Government management, engineering, and contract support.				
FY 2012 Plans: Government management, engineering, and contract support.				
FY 2013 Plans: Government management, engineering, and contract support.				
Accomplishments/Planned Programs Subtotals		230.797	198.251	142.282
C. Other Program Funding Summary (\$ in Millions)				
N/A				

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0604402N: <i>Unmanned Combat Air Veh(UCAV) Adv Cp/Proto Dev</i>	PROJECT 3178: <i>Unmanned Combat Air System CV-Demo (UCAS-D)</i>

D. Acquisition Strategy

In the 2005 Quadrennial Defense Review, the Navy was directed to restructure the Joint Unmanned Combat Air System (UCAS) program and develop an unmanned, longer-range carrier-based aircraft capable of being air-refueled to provide greater aircraft carrier standoff capability, to expand payload and launch options, and to increase naval reach and persistence. The primary goal is risk reduction for carrier integration while developing the critical data necessary to support a potential follow on acquisition milestone decision. The Navy UCAS effort will focus on designing, developing, and evaluating the core capabilities which safely demonstrate carrier interoperability. Currently, primary hardware development for the Navy UCAS effort is being performed under a Federal Acquisition Regulation based, cost plus incentive fee-type contract competitively awarded to a single contractor.

E. Performance Metrics

Complete airworthiness and envelope expansion testing. Conduct shore-based carrier suitability testing. Conduct F/A-18D surrogate aircraft testing with Nimitz class aircraft carrier. Conduct final sea trials of X-47B air vehicles. Demonstrate Autonomous Aerial Refueling.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0604402N: <i>Unmanned Combat Air Veh(UCAV) Adv Cp/Proto Dev</i>	PROJECT 3178: <i>Unmanned Combat Air System CV-Demo (UCAS-D)</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Aviation/ Ship Integration	C/CPFF	Rockwell/AFRL:Rome, NY	8.535	2.000	Nov 2011	1.638	Nov 2012	-		1.638	0.500	12.673	12.673
Aviation/ Ship Integration	C/CPFF	L-3 Com Titan:MD	10.278	2.000	Dec 2011	1.400	Dec 2012	-		1.400	1.340	15.018	15.018
Aviation/Ship Integration	WR	NAWCAD:MD	39.626	15.580	Nov 2011	14.443	Nov 2012	-		14.443	4.279	73.928	
Aviation/Ship Integration	C/CPIF	Various:Various	4.242	0.900	Jan 2012	0.843	Jan 2013	-		0.843	0.500	6.485	6.485
Primary Hardware Development	C/CPIF	Northrop Grumman Corporation:CA	752.550	129.140	Dec 2011	87.187	Dec 2012	-		87.187	13.212	982.089	982.089
Systems Engineering	WR	NAWCAD:MD	29.786	15.310	Nov 2011	12.857	Nov 2012	-		12.857	6.315	64.268	
Product Development	Various	Various:Various	97.551	3.567	Dec 2011	4.353	Dec 2012	-		4.353	1.231	106.702	
Subtotal			942.568	168.497		122.721		-		122.721	27.377	1,261.163	

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Years Support	Various	Various:Various	20.861	-		-		-		-	0.000	20.861	
Subtotal			20.861	-		-		-		-	0.000	20.861	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	MIPR	Edwards AFB:CA	9.475	4.737	Nov 2011	-	Nov 2012	-		-	0.000	14.212	
Developmental Test & Evaluation	WR	NAWCAD:MD	16.374	10.338	Nov 2011	8.345	Nov 2012	-		8.345	5.404	40.461	
Test & Evaluation	Various	Various:Various	1.006	0.368	Nov 2011	0.305	Nov 2012	-		0.305	0.100	1.779	
Subtotal			26.855	15.443		8.650		-		8.650	5.504	56.452	

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0604402N: <i>Unmanned Combat Air Veh(UCAV) Adv Cp/Proto Dev</i>	PROJECT 3178: <i>Unmanned Combat Air System CV-Demo (UCAS-D)</i>
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Unmanned Combat Air Vehicle (UCAV) ADV CP/PROTO DEV	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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																												
Air Vehicle 1 Development & Integration																												
Air Vehicle 2 Development & Integration																												
Mission Control Segment Software Devel, Int, & Supt																												
Ship Integration																												
System Design																												
System Integration																												
Surrogate/Air Vehicle Flight Test																												
Test & Evaluation																												
Surrogate Testing																												
Airworthiness Testing																												
First Flight ▲																												
Land Based Carrier Control Area, Catapult Launch & Arrestment Testing																												
Sea Trials																												
First Ship Landing ▲																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0604402N: <i>Unmanned Combat Air Veh(UCAV) Adv Cp/Proto Dev</i>	PROJECT 3178: <i>Unmanned Combat Air System CV-Demo (UCAS-D)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Unmanned Combat Air Vehicle (UCAV) ADV CP/PROTO DEV</i>				
Systems Development: Air Vehicle 1	1	2011	1	2011
Systems Development: Air Vehicle 2	1	2011	4	2011
Systems Development: Software Devel, Int, & Supt	1	2011	4	2012
Systems Development: Ship Integration: Build 2	1	2011	2	2013
Systems Development: Autonomous Aerial Refueling (AAR): System Design - AAR	1	2011	4	2011
Systems Development: Autonomous Aerial Refueling (AAR): System Integration - AAR	1	2011	3	2014
Systems Development: Autonomous Aerial Refueling (AAR): Surrogate/Air Vehicle Flight Test - AAR	3	2011	3	2013
Test & Evaluation: Surrogate Testing: Surrogate Testing	1	2011	4	2013
Test & Evaluation: Airworthiness Testing: Airworthiness Testing	1	2011	2	2012
Test & Evaluation: Airworthiness Testing: Airworthiness Testing - First Flight	2	2011	2	2011
Test & Evaluation: Land Based Carrier Control Area, Catapult Launch & Arrestment Testing: Land Based Carrier Control Area, Catapult Launch & Arrestment Testing	1	2012	4	2013
Test & Evaluation: Sea Trials: Sea Trials	1	2013	4	2013
Test & Evaluation: Sea Trials: First Ship Landing	2	2013	2	2013

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0604402N: <i>Unmanned Combat Air Veh(UCAV) Adv Cp/Proto Dev</i>	PROJECT 3191: <i>UCAS Technical Maturation</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
3191: <i>UCAS Technical Maturation</i>	27.272	-	-	-	-	-	-	-	-	0.000	27.272
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Navy Unmanned Combat Air System (UCAS) program is an Advanced Development effort. The Navy UCAS program will be structured to match program resources to United States Navy objectives/constraints with the goals of identifying and maturing critical technologies and reducing the risk of carrier integration of a UCAS. Candidate technology maturation efforts include transformational communications, advanced integrated propulsion, aircraft carrier suitable materials, Low Observable (LO) sensors and apertures, sense and avoid functionality (all operating in a LO environment), autonomous operations (software algorithms and interfaces), and computer resource data storage and access systems. Modeling, simulation, analysis, industrial capability assessments, system/component development, and analysis of architectures and concept designs are being developed as a result of the demonstration. Maturation of candidate technologies support the evaluation of alternatives needed for a future milestone decision.

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

	FY 2011	FY 2012	FY 2013
<p>Title: Product Development</p> <p style="text-align: right;">Articles:</p> <p>Description: Identification and maturation of technologies required to support the demonstration of an unmanned, LO platform Navy UCAS on an aircraft carrier including modeling, simulation, analysis, industrial capability assessments, system/component development, and analysis of architectures and concept designs to support the evaluation of alternatives needed for a future milestone decision.</p> <p>FY 2011 Accomplishments: Continued technology maturation, modeling, simulation, analysis, industrial capability assessments, system/component development, and analysis of architectures and concept designs.</p>	11.380 0	-	-
<p>Title: Support</p> <p style="text-align: right;">Articles:</p> <p>FY 2011 Accomplishments: Performed activities that support the evaluation of alternatives needed for a future milestone decision and subsequent entry into Engineering and Manufacturing Development (EMD).</p>	15.892 0	-	-
Accomplishments/Planned Programs Subtotals	27.272	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0604402N: <i>Unmanned Combat Air Veh(UCAV) Adv Cp/Proto Dev</i>	PROJECT 3191: <i>UCAS Technical Maturation</i>

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

N/A

D. Acquisition Strategy

In the 2005 Quadrennial Defense Review, the Navy was directed to restructure the Joint Unmanned Combat Air System (UCAS) program and develop an unmanned, longer-range carrier-based aircraft capable of being air-refueled to provide greater aircraft carrier standoff capability, to expand payload and launch options, and to increase naval reach and persistence. The primary goal is risk reduction for maturation of critical technologies, while developing the critical data necessary to support a potential follow on acquisition milestone decision. The Navy UCAS effort will focus on designing, developing, and evaluating the core capabilities which safely demonstrate carrier interoperability. As part of this effort, individual contracts will be awarded either competitively or sole sourced in a firm fixed price or cost plus arrangement to evolve various technologies to meet the Technology Readiness Level-6 to support the Advanced Development effort.

E. Performance Metrics

The goal of the Technology Maturation Project Unit is to identify and mature critical technologies and reduce the risk of carrier integration of a UCAS.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0604717M: (U)MARINE CORPS COMBAT SERVICES SUPPORT
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	-	0.400	-	-	-	-	-	-	-	0.000	0.400
2510: <i>MAGTF CSSE & SE</i>	-	0.400	-	-	-	-	-	-	-	0.000	0.400

A. Mission Description and Budget Item Justification

GLOBAL COMBAT SUPPORT SYSTEM - MARINE CORPS (GCSS-MC) GLOBAL FORCE MANAGEMENT DATA INITIATIVE (GFM-DI). Global Combat Support System-Marine Corps (GCSS-MC) is the physical implementation of the enterprise Information Technology (IT) architecture designed to support both improved and enhanced Marine Air Ground Task Force (MAGTF) Combat Support Services (CSS) functions and MAGTF Commander and Combatant Commanders/Joint Task Force (CC/JTF) combat support information requirements. The initial program includes all transactional CSS systems related to Supply Chain Management (SCM) and Enterprise Asset Management (EAM) functionality enabled with Service Management functions. The primary goal of GFM-DI initiative is to support the capture of force structure authorization data, such as IUID data from the GCSS-MC system, and facilitate the accessibility of this data via web services.

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	-	0.400	0.325	-	0.325
Current President's Budget	-	0.400	-	-	-
Total Adjustments	-	-	-0.325	-	-0.325
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	-	-	-0.325	-	-0.325

Change Summary Explanation

Funding supports the Joint Global Force Management - Data Initiative (GFM-DI). The acquisition details are not finalized, but will be completed in the Spring 2012 with the approval of the CDD and the development of the CPD.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0604717M: (U)MARINE CORPS COMBAT SERVICES SUPPORT	PROJECT 2510: MAGTF CSSE & SE
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2510: MAGTF CSSE & SE	-	0.400	-	-	-	-	-	-	-	0.000	0.400
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

GLOBAL COMBAT SUPPORT SYSTEM - MARINE CORPS (GCSS-MC) GLOBAL FORCE MANAGEMENT DATA INITIATIVE (GFM-DI). Global Combat Support System-Marine Corps (GCSS-MC) is the physical implementation of the enterprise Information Technology (IT) architecture designed to support both improved and enhanced Marine Air Ground Task Force (MAGTF) Combat Support Services (CSS) functions and MAGTF Commander and Combatant Commanders/Joint Task Force (CC/JTF) combat support information requirements. The initial program includes all transactional CSS systems related to Supply Chain Management (SCM) and Enterprise Asset Management (EAM) functionality enabled with Service Management functions. The primary goal of GFM-DI initiative is to support the capture of force structure authorization data, such as Item Unique IDentification (IUID) data from the GCSS-MC system, and facilitate the accessibility of this data via web services.

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

	FY 2011	FY 2012	FY 2013
Title: New Accomplishment/Planned Program Entry	-	0.400	-
Articles:		0	
FY 2012 Plans: FY12 activities include the completion of the GCSS LCM Block 2 requirements analysis and the preparation of the Capabilities Design Document (CDD).			
Accomplishments/Planned Programs Subtotals	-	0.400	-

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

N/A

D. Acquisition Strategy

The GFM-DI initiative support will be integrated into the GCSS-MC/LCM Increment 2 requirements analysis and program planning scheduled to begin during FY12. Increment 2 will expand the retail supply functionality of Increment 1 by implementing Marine Corps-wide wholesale and retail warehouse management and automated information technologies, such as RFID and bar code scanning, and the study of IUID will be incorporated into the Increment 2 analysis.

E. Performance Metrics

Technical: Realignment of funds into PE 0604717M represents USMC commitment to the Department's Global Force Management-Data Initiative advocated by VCJCS.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0604717M: (U)MARINE CORPS COMBAT SERVICES SUPPORT	PROJECT 2510: MAGTF CSSE & SE
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
GCSS LCM Increment 2 Analysis GFM-DI	C/FP	TBD:Triangle, VA	-	0.400	Jun 2012	-		-		-	0.000	0.400	
Subtotal			-	0.400				-		-	0.000	0.400	

			Total Prior Years Cost	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	0.400	-	-	-	0.000	0.400	

Remarks

APPROPRIATION/BUDGET ACTIVITY

1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

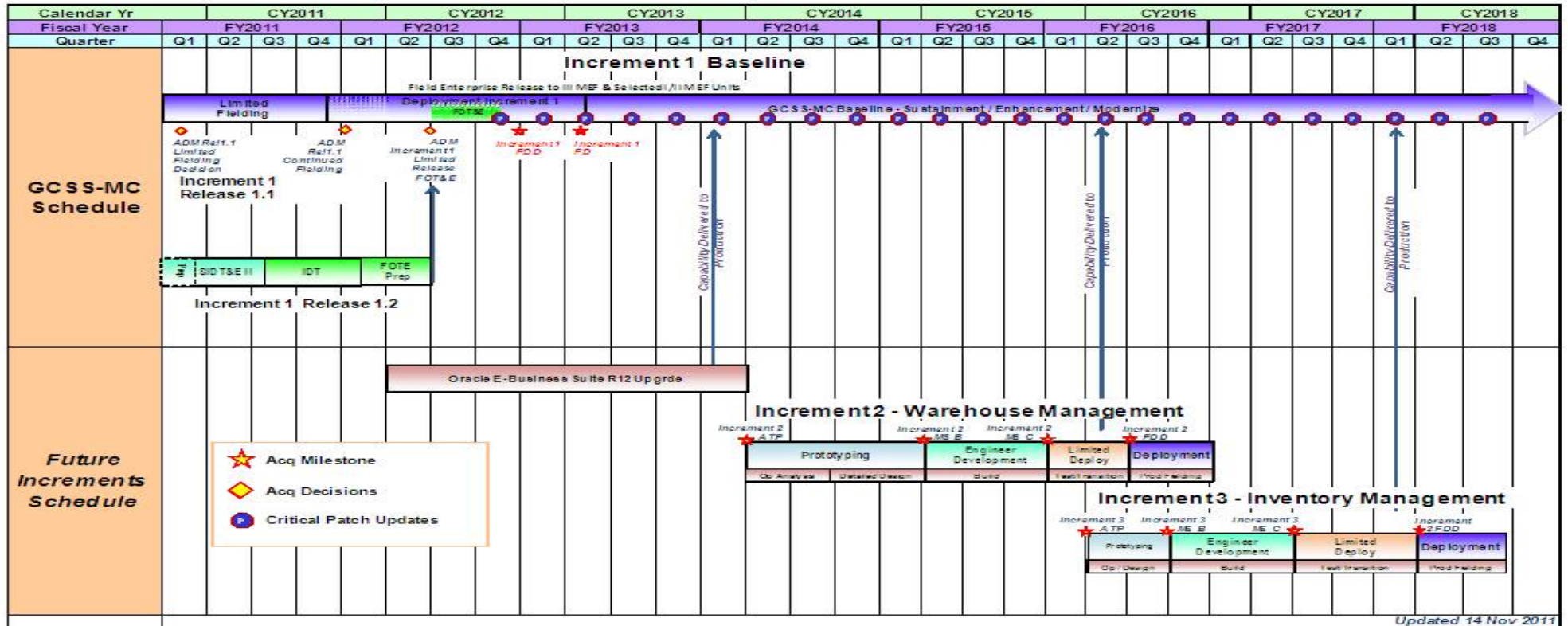
R-1 ITEM NOMENCLATURE

PE 0604717M: (U)MARINE CORPS COMBAT SERVICES SUPPORT

PROJECT

2510: MAGTF CSSE & SE

GCSS-MC/LCM Program Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0604717M: <i>(U)MARINE CORPS COMBAT SERVICES SUPPORT</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2510				
GCSS LCM Increment 2 Analysis	3	2012	2	2013

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0604766M: (U)MARINE CORPS DATA SYSTEMS
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	-	1.650	-	-	-	0.069	0.215	-	-	0.000	1.934
2906: <i>Marine Corps IT</i>	-	1.650	-	-	-	-	-	-	-	0.000	1.650
4043: <i>Global Force Mgmt - DI (GFM-DI) for Total Force Struct Mgmt Sys (TFSMS)</i>	-	-	-	-	-	0.069	0.215	-	-	0.000	0.284

A. Mission Description and Budget Item Justification

PE 0604766M reflects a portion of the Global Force Management-Data Initiative (GFM-DI) advocated by the Vice-Chairman, Joint Chiefs of Staff (VCJCS). Funding enhancements support GFM-DI implementation of the Force Management and Adaptive Planning Processes by FY13 and Financial, Health Records, and Information Assurance by FY16.

B. Program Change Summary (\$ in Millions)

	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013 Base</u>	<u>FY 2013 OCO</u>	<u>FY 2013 Total</u>
Previous President's Budget	-	1.650	1.375	-	1.375
Current President's Budget	-	1.650	-	-	-
Total Adjustments	-	-	-1.375	-	-1.375
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	-	-	-1.375	-	-1.375

Change Summary Explanation

All GFM-DI funding support for TFSMS in PE 0604766M moves to project 4043 after FY 2012.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0604766M: (U)MARINE CORPS DATA SYSTEMS	PROJECT 2906: <i>Marine Corps IT</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2906: <i>Marine Corps IT</i>	-	1.650	-	-	-	-	-	-	-	0.000	1.650
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

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 (GFM) Organizational Server. Increment II development began in FY11 with the first major software release of Increment II to occur in FY12. The TFSMS Increment II Capability Development Document (CDD) defines the requirements and expectations for Initial Operational Capability (IOC) and Full Operational Capability (FOC). FOC is scheduled for FY16. FY12 R&D for TFSMS includes the first Increment II software release for the Systems Integration efforts, v3.0 (scheduled for the 3rd Qtr FY12) and additional GFM capabilities. System Integration efforts will continue.

All GFM-DI funding support for TFSMS in PE 0604766M moves to project 4043 after FY 2012.

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

	FY 2011	FY 2012	FY 2013
Title: Total Force Structure Management System (TFSMS)	-	1.650	-
Articles:		0	
FY 2012 Plans: Global Force Management (GFM) organizational server initial updates to expand web service capabilities, integrate with other GFM authoritative data sources and implement Attribute Based Access Control (ABAC).			
Accomplishments/Planned Programs Subtotals	-	1.650	-

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

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• 0605013M/463000: <i>TFSMS</i>	0.108	0.016	0.000	0.000	0.000	0.573	0.000	3.923	0.000	Continuing	Continuing
• 0206313M/461700: <i>TFSMS</i>	0.000	4.388	0.000	0.000	0.000	0.647	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

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

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	PE 0604766M: (U)MARINE CORPS DATA SYSTEMS	2906: <i>Marine Corps IT</i>

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.

E. Performance Metrics

Technical: This exhibit reflects a break-out of GFM-DI efforts into unique USMC PE's. All GFM-DI funding support for TFSMS in PE 0604766M moves to project 40743 after FY 2012.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0604766M: (U)MARINE CORPS DATA SYSTEMS	PROJECT 2906: <i>Marine Corps IT</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
TFSMS R2 Systems Integrator Development	C/FPIF	TBD:TBD	0.456	0.866	Jul 2012	-		-		-	0.000	1.322	
Subtotal			0.456	0.866		-		-		-	0.000	1.322	

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
TFSMS Human Systems Integration	C/T&M	NSWC:Dalhgren VA	0.230	0.448	Jul 2012	-		-		-	0.000	0.678	
TFSMS RDTE Program Management	C/FFP	LM:Stafford VA	0.619	0.336	Jan 2012	-		-		-	0.000	0.955	
Subtotal			0.849	0.784		-		-		-	0.000	1.633	

			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			1.305	1.650		-		-		-	0.000	2.955	

Remarks
TOTAL FORCE STRUCTURE MANAGEMENT SYSTEMS (TFSMS) has two PE numbers within Project 2906; PE 0605013M and PE 0604766M.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0604766M: (U)MARINE CORPS DATA SYSTEMS	PROJECT 4043: <i>Global Force Mgmt - DI (GFM-DI) for Total Force Struct Mgmt Sys (TFSMS)</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
4043: <i>Global Force Mgmt - DI (GFM-DI) for Total Force Struct Mgmt Sys (TFSMS)</i>	-	-	-	-	-	0.069	0.215	-	-	0.000	0.284
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

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 (GFM) Organizational Server. Increment II development began in FY11 with the first major software release of Increment II to occur in FY12. The TFSMS Increment II Capability Development Document (CDD) defines the requirements and expectations for Initial Operational Capability (IOC) and Full Operational Capability (FOC). FOC is scheduled for FY16.

The GFM-DI funding for TFSMS in PE 0604766M is in project 2906 in FY 2012.

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

N/A

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

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• 0606313M/463000: <i>TFSMS</i>	0.108	0.016	0.000	0.000	0.000	0.573	0.000	3.923	0.000	Continuing	Continuing
• 0206313M/461700: <i>TFSMS</i>	0.000	4.388	0.000	0.000	0.000	0.647	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

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.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0604766M: (U)MARINE CORPS DATA SYSTEMS	PROJECT 4043: <i>Global Force Mgmt - DI (GFM-DI) for Total Force Struct Mgmt Sys (TFSMS)</i>

E. Performance Metrics

Technical: This exhibit reflects a break-out of GFM-DI efforts into unique USMC PE's. The GFM-DI funding for TFSMS in PE 0604766M is in project 2906 in FY 2012.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101221N: <i>Strategic Sub & Wpns Sys Supt</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	68.575	88.873	105.892	-	105.892	123.984	133.862	132.333	134.612	Continuing	Continuing
0004: <i>TRIDENT Submarine System Improvement</i>	0.426	-	-	-	-	-	-	-	-	0.000	0.426
0951: <i>Joint Warhead Fuze Sustainment Program</i>	21.722	42.171	61.576	-	61.576	95.474	106.412	104.391	106.189	Continuing	Continuing
2228: <i>Technical Applications Programs</i>	42.114	42.097	39.719	-	39.719	23.909	22.846	23.256	23.656	Continuing	Continuing
3158: <i>Integrated Nuclear Weapons Security Sys Dev</i>	4.313	4.605	4.597	-	4.597	4.601	4.604	4.686	4.767	Continuing	Continuing

A. Mission Description and Budget Item Justification

The TRIDENT Submarine System Improvement Program (0004) develops and integrates command and control improvements needed to maintain TRIDENT Submarine operational capability through the life cycle of this vital strategic asset. The program conducts efforts needed to maintain strategic connectivity, ensure platform invulnerability, and reduce lifecycle costs through Obsolete Equipment Replacement (OER) and commonality.

The Joint Warhead Fuze Sustainment Program (0951) is an effort to develop advanced components to improve the reliability, safety, and security of Arming, Fuzing and Firing (AF&F) systems for nuclear reentry systems. The current effort is focused on supporting the Alteration of the AF&F system for the MK5/W88 system which will be five years beyond its design life at the scheduled deployment of the AF&F Alteration. This effort also supports future utilization of the developed components by the US Air Force and United Kingdom.

The Technology Applications Program (2228) supports the TRIDENT II (D5) Submarine Launched Ballistic Missile (SLBM) that provides the U.S. a weapon system with greater accuracy and payload capability as compared to the TRIDENT I (C4) system. TRIDENT II enhances U.S. strategic deterrence providing a survivable, sea-based system capable of engaging the full spectrum of potential targets with fewer submarines. This Program Element supports investigations into new technologies which would help mitigate the program impact due to component obsolescence and a rapidly decreasing manufacturing support base. These efforts include Reentry System Applications and Guidance System Applications.

The Integrated Nuclear Weapons Security System (INWSS) (3158) efforts support the Nuclear Weapons Security program and SSBN Escort mission. The policies and requirements regarding the safeguard of nuclear weapons within the Department of Defense is established by DoD S5210.41M. Within the Department of the Navy, nuclear weapons are limited to TRIDENT Fleet Ballistic Missiles (FBM), either deployed aboard TRIDENT submarines or located landside at Naval Submarine Base, Kings Bay, or Naval Submarine Base, Bangor where missiles are first assembled as well as repaired. The Chief of Naval Operations (CNO) has assigned the Strategic Systems Programs, the FBM program manager, with mission responsibility for the safeguard of FBM nuclear technologies. This budget supports efforts directed at

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101221N: <i>Strategic Sub & Wpns Sys Supt</i>
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improving the current technological baseline through a series of studies focusing on land and waterside requirements, including both surface and underwater. These efforts will improve countermeasure technologies to address detection, delay and denial.

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	81.184	88.873	111.007	-	111.007
Current President's Budget	68.575	88.873	105.892	-	105.892
Total Adjustments	-12.609	-	-5.115	-	-5.115
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-2.247	-			
• Program Adjustments	-	-	-5.000	-	-5.000
• Rate/Misc Adjustments	-	-	-0.115	-	-0.115
• Congressional General Reductions Adjustments	-0.362	-	-	-	-
• Congressional Directed Reductions Adjustments	-10.000	-	-	-	-

Change Summary Explanation

Funding reduced in FY 2013 for the phased cancellation of Guidance Applications Programs (GAP) in FY 2014.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101221N: <i>Strategic Sub & Wpns Sys Supt</i>	PROJECT 0004: <i>TRIDENT Submarine System Improvement</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
0004: <i>TRIDENT Submarine System Improvement</i>	0.426	-	-	-	-	-	-	-	-	0.000	0.426
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The TRIDENT operational systems development program results in improvements to the baseline TRIDENT Combat System. Current TRIDENT Combat Systems were first developed in the early 1970s and are becoming increasingly difficult to maintain and offer comparatively less performance than more recently designed systems. Previous efforts to upgrade portions of the TRIDENT Combat System include improvements via sonar and combat control hardware and software (e.g., QE2 programs), feasibility of increased countermeasure capability and a concept evaluation of an Submarine Fleet Mission Program Library (SF MPL) interface. Due to the sensitivity of TRIDENT programs it is assessed that international technology will not have a major impact or be a recipient of the benefits derived from this effort. Development strategies will significantly enhance the sustainability and operability of the sonar, communications and Combat Control Systems on TRIDENTs by evaluating both Obsolete Equipment Replacement (OER) possibilities and potential improvements.

The TRIDENT Submarine System Improvement Program develops and integrates command and control improvements needed to maintain TRIDENT Submarine operational capability through the life cycle of this vital strategic asset. The program conducts efforts needed to maintain strategic connectivity, ensure platform invulnerability, and reduce lifecycle costs through Obsolete Equipment Replacement (OER) and commonality.

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

	FY 2011	FY 2012	FY 2013
Title: TRIDENT Submarine System Improvement	0.426	-	-
Articles:	0		
FY 2011 Accomplishments: Conduct Commercial Off The Shelf (COTS)/emergent technology and Command Control System (CCS) performance requirements evaluations supporting Trident modernization program/plans. Research and evaluate effectiveness of proposed new technology over the ships' life cycle. Analyze impacts on platform performance with proposed new technology changes using architecture models and tests. Study and identify options in selecting and installing new technology improvements. Evaluate Navigation data interface requirements to meet Electronic Chart Display and Information System Navy (ECDIS-N) compliance on Trident hulls. Provide arrangement layouts Government Furnished Information (GFI) to Electric Boat (EB) Ship Design Agent (SDA).			
Accomplishments/Planned Programs Subtotals	0.426	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101221N: <i>Strategic Sub & Wpns Sys Supt</i>	PROJECT 0004: <i>TRIDENT Submarine System Improvement</i>
C. Other Program Funding Summary (\$ in Millions) N/A		
D. Acquisition Strategy Efforts conducted by U.S. Navy laboratories.		
E. Performance Metrics Not applicable		

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0101221N: <i>Strategic Sub & Wpns Sys Supt</i>				PROJECT 0951: <i>Joint Warhead Fuze Sustainment Program</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
0951: <i>Joint Warhead Fuze Sustainment Program</i>	21.722	42.171	61.576	-	61.576	95.474	106.412	104.391	106.189	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Joint Warhead Fuze Sustainment Program is an effort to develop advanced components to improve the reliability, safety, and security of Arming, Fuzing and Firing (AF&F) systems for nuclear reentry systems. The current effort is focused on supporting the Alteration of the AF&F system for the MK5/W88 system which will be five years beyond its design life at the scheduled deployment of the AF&F Alteration. This effort also supports future utilization of the developed components by the US Air Force and United Kingdom.

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

	FY 2011	FY 2012	FY 2013
Title: TRIDENT II	21.722	42.171	61.576
Articles:	0	0	0
Description: Identify, prioritize, develop, proof, and demonstrate advanced technologies that will be leveraged and incorporated into future AF&Fs.			
FY 2011 Accomplishments: FY 2011 efforts include: (\$21.722) Joint Warhead Fuze Sustainment Program Develop, proof, and demonstrate identified advanced technologies for future AF&Fs Support USN, USAF, and UK engineer working groups. Perform component level testing of potential arming/fuzing devices and technologies. Begin development of advanced AF&F safety and surety architecture solution. Document enveloping requirements to support Navy, Air Force, and UK applications.			
FY 2012 Plans: FY2012 efforts include: (\$42.171) Joint Warhead Fuze Sustainment Program Continue development, proofing, demonstration, and technology maturation of identified advanced technologies for future AF&Fs Support USN, USAF, and UK engineer working groups. Conduct AF&F sub-assembly design demonstrations Continue development of advanced safety and surety architecture solutions. Complete Conceptual Design Review.			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101221N: <i>Strategic Sub & Wpns Sys Supt</i>	PROJECT 0951: <i>Joint Warhead Fuze Sustainment Program</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
Commence detailed design. FY 2013 Plans: FY2013 efforts include: (\$61.576) Joint Warhead Fuze Sustainment Program Continue development, proofing, demonstration, and technology maturation of identified advanced technologies for future AF&Fs Support USN, USAF, and UK engineer working groups. Continue AF&F sub-assembly design demonstrations Continue development of advanced safety and surety architecture solutions. Continue detailed design Conduct Performance Assessment of tested designs Conduct Production Engineering				
Accomplishments/Planned Programs Subtotals		21.722	42.171	61.576
C. Other Program Funding Summary (\$ in Millions) N/A				
D. Acquisition Strategy Contracts will continue to be awarded to those sources who were engaged in the Mk4LE Reentry Body development program and are currently engaged in the production and/or operational support of the deployed Mk4LE Reentry Body on the basis of Other Than Full and Open Competition pursuant to the authority of 10 U.S.C. 2304 (c) (1) and (3) implemented by FAR 6.302.-1, 3, 4				
E. Performance Metrics Not applicable				

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy										DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0101221N: Strategic Sub & Wpns Sys Supt				PROJECT 0951: Joint Warhead Fuze Sustainment Program					

Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total				
Cost Category Item	Contract Method & Type	Performing Activity & 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 Warhead Fuze Sustainment DOE	MIPR	DOE:NM	32.392	39.284	Dec 2011	54.943	Oct 2012	-		54.943	Continuing	Continuing	Continuing	
Joint Warhead Fuze Sustainment ITT	SS/CPFF	ITT:VA	1.800	1.887	Dec 2011	2.000	Oct 2012	-		2.000	Continuing	Continuing	Continuing	
Joint Warhead Fuze Sustainment LMMS	SS/CPFF	LMMS:CA	1.500	1.000	Feb 2012	4.000	Oct 2012	-		4.000	Continuing	Continuing	Continuing	
Joint Warhead Fuze Sustainment	WR	NSWC Carderock:MD	-	-		0.633	Oct 2012	-		0.633	Continuing	Continuing	Continuing	
Subtotal			35.692	42.171		61.576		-		61.576				
Project Cost Totals			35.692	42.171		61.576		-		61.576				

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101221N: <i>Strategic Sub & Wpns Sys Supt</i>	PROJECT 0951: <i>Joint Warhead Fuze Sustainment Program</i>
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Proj 0951	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017							
	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				

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101221N: <i>Strategic Sub & Wpns Sys Supt</i>	PROJECT 0951: <i>Joint Warhead Fuze Sustainment Program</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 0951				
Define Technical Requirements	1	2011	3	2011
Technology Development Strategies	1	2011	3	2011
Capabilities Assessment	1	2011	3	2011
Technology Maturation	1	2011	4	2013
Design Demonstration	1	2012	4	2014
Assembly Level Testing	3	2012	4	2016
Performance Assessment of Tested Designs	1	2013	4	2016
Development Tests	3	2014	4	2016
Production Engineering	1	2013	4	2016
General JCIDS Support	1	2011	4	2016
General Acquisition Planning Support	1	2011	4	2016

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101221N: <i>Strategic Sub & Wpns Sys Supt</i>	PROJECT 2228: <i>Technical Applications Programs</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2228: <i>Technical Applications Programs</i>	42.114	42.097	39.719	-	39.719	23.909	22.846	23.256	23.656	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 supports implementation of a coordinated Navy/Air Force Reentry System Applications Program (RSAP), and a coordinated Navy/Air Force Strategic Guidance Applications Program (GAP). Reentry vehicle and guidance technology had been rapidly eroding beyond the point of being capable to respond to increasing aging phenomena and future requirements. The December 2001 DOD Nuclear Posture Review determined that infrastructure is a critical part of the new triad and these efforts form part of the infrastructure that supports the nuclear force structure.

The RSAP program, through sustainment of the reentry vehicle technology base, will maintain confidence in the dependability and reliability of strategic SLBM and ICBM weapon systems over the long term when no new systems will be in development. Critical and unique attributes necessary for the design, development and in-service support of current and modernized SLBM reentry systems have been defined and will be maintained to ensure a functioning readiness application technical capability in reentry is preserved. Working closely with the Air Force, Navy and Air Force requirements have been integrated into a comprehensive program. The program maintains close coordination with the DOD Science and Technology (S&T) community in order to: leverage S&T programs, ensure system driven technology base requirements are considered in contract awards, eliminate duplication of effort and provide an opportunity to demonstrate appropriate emerging technologies through a reentry flight test evaluation process.

The GAP program provides a minimum strategic guidance core technology development capability consistent with the Strategic Advisory Group (SAG) recommendations to COMSTRATCOM. The SAG recommended that SSP establish a program which preserves this critical design and development core. It is a basic bridge program which develops critical guidance technology applicable to any of the existing Air Force/Navy strategic missiles. The objective is to transition from current capability to a long term readiness status required to support deployed systems. Air Force and Navy guidance technology requirements are integrated and needs to be prioritized. Efforts are focused on alternatives to technologies identified as system "weak links." Currently, system accuracy and functionality depends upon key technologies which provide radiation hardened velocity, attitude and stellar sensing capabilities. As the underlying technologies that currently provide these capabilities age and are no longer technically supportable, modern alternatives must be made available in order to allow for orderly replacement. There is no commercial market for these technologies and their viability depends on the strategic community.

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

	FY 2011	FY 2012	FY 2013
Title: Technical Applications Program	42.114	42.097	39.719
Articles:	0	0	0
FY 2011 Accomplishments: FY 2011 efforts include:			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101221N: <i>Strategic Sub & Wpns Sys Supt</i>	PROJECT 2228: <i>Technical Applications Programs</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
<p>(\$21.892) Continue Reentry System Applications Program (RSAP). Maintain the current capability and support the planned service life extension of Navy reentry systems. Continue development and ground testing of reentry vehicle candidate heat shield and nose tip materials including those available from Science & Technology (S&T) Continue testing of alternative low-cost heat shield and replacement nose tip material. Analyze advanced aging material to determine its effectiveness. Continue testing of operationally aged heat shields to support aging trends and replacement materials assessments. Maintain RSAP technical program plan, conduct system assessments and continue Vulnerability & Hardening certification process development in absence of Nuclear Under Ground Testing (UGT) facilities. Continue Reentry Body material development and advanced flight test instrumentation activities. Flight Test the advanced radiation tolerant GPS receiver Ground test advanced reentry material systems and advanced instrumentation components. Continue design development evaluation of Avionics Batteries and Avionics Computer s.</p> <p>(\$20.222) Continue Strategic Guidance Applications Programs (GAP). Continue to develop new architectures using telecom-based optical components for high-precision strategic gyro. Continue to evaluate emergent alternate sensor technologies, (accelerometer, gyro, and stellar) with an emphasis on providing existing performance in a significantly reduced form factor. Assess feasibility of advanced stellar sensor technologies for use in strategic applications; specifically, active pixel and camera-on-a-chip architectures will be evaluated. Utilize the capabilities of the Virtual System Simulation (VSSim) to conduct system trade studies that support precision guidance application for boost phase and boost-thru-reentry scenarios. Investigate concepts for enhanced system test and analysis Conduct investigations to improve circumvention and recovery performance. Investigate concepts for enhanced systems test and analysis</p> <p>FY 2012 Plans: FY 2012 efforts include: (\$21.202) Continue Reentry System Applications Program. Maintain the current capability and support the planned service life extension of Navy reentry systems. Continue development and ground testing of reentry vehicle candidate heat shield and nose tip materials including those available from Science & Technology (S&T) Continue testing of alternative low-cost heat shield and replacement nose tip material. Analyze advanced aging material to determine its effectiveness.</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101221N: <i>Strategic Sub & Wpns Sys Supt</i>	PROJECT 2228: <i>Technical Applications Programs</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<p>Continue testing of operationally aged heat shields to support aging trends and replacement materials assessments. Maintain RSAP technical program plan, conduct system assessments and continue Vulnerability & Hardening certification process development in absence of Nuclear Under Ground Testing (UGT) facilities. Continue Reentry Body material development and advanced flight test instrumentation activities. Ground test advanced reentry material systems and advanced instrumentation components. Continue design development evaluation of Avionics Batteries and Avionics Computer s.</p> <p>(\$20.895) Continue Strategic Guidance Applications Programs (GAP). Continue to develop new architectures using telecom-based optical components for high-precision strategic gyro. Continue to evaluate emergent alternate sensor technologies, (accelerometer, gyro, and stellar) with an emphasis on providing existing performance in a significantly reduced form factor. Assess feasibility of advanced stellar sensor technologies for use in strategic applications; specifically, active pixel and camera-on-a-chip architectures will be evaluated. Utilize the capabilities of the Virtual System Simulation (VSSim) to conduct system trade studies that support precision guidance application for boost phase and boost-thru-reentry scenarios. Investigate concepts for enhanced system test and analysis Conduct investigations to improve circumvention and recovery performance.</p> <p>FY 2013 Plans: FY 2013 efforts include: (\$24.566) Continue Reentry System Applications Program. Maintain the current capability and support the planned service life extension of Navy reentry systems. Continue development and ground testing of reentry vehicle candidate heat shield and nose tip materials including those available from Science & Technology (S&T) Continue testing of alternative low-cost heat shield and replacement nose tip material. Analyze advanced aging material to determine its effectiveness. Continue testing of operationally aged heat shields to support aging trends and replacement materials assessments. Maintain RSAP technical program plan, conduct system assessments and continue Vulnerability & Hardening certification process development in absence of Nuclear Under Ground Testing (UGT) facilities. Continue Reentry Body material development and advanced flight test instrumentation activities. Ground test advanced reentry material systems and advanced instrumentation components. Continue design development evaluation of Avionics Batteries and Avionics Computers.</p> <p>(\$15.153) Continue Strategic Guidance Applications Programs (GAP).</p>				

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101221N: <i>Strategic Sub & Wpns Sys Supt</i>	PROJECT 2228: <i>Technical Applications Programs</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Continue to evaluate emergent alternate sensor technologies, (accelerometer, gyro, and stellar) with an emphasis on providing existing performance in a significantly reduced form factor. Assess feasibility of advanced stellar sensor technologies for use in strategic applications; specifically, active pixel and camera-on-a-chip architectures will be evaluated. Utilize the capabilities of the Virtual System Simulation (VSSim) to conduct system trade studies that support precision guidance application for boost phase and boost-thru-reentry scenarios. Investigate concepts for enhanced system test and analysis Complete to the maximum extent possible all GAP development effort. Commence the orderly phase out and termination of the GAP program. Program ends in FY 2014.			
Accomplishments/Planned Programs Subtotals	42.114	42.097	39.719

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

N/A

D. Acquisition Strategy

Contracts will continue to be awarded to those sources who were engaged in the TRIDENT II (D5) development program and are currently engaged in the production and/or operational support of the deployed D5 Strategic Weapons Systems on the basis of Other Than Full and Open Competition pursuant to the authority of 10 U.S.C. 2304 (c) (1) and (3) implemented by FAR 6.302.-1, 3, 4

E. Performance Metrics

Not applicable

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101221N: <i>Strategic Sub & Wpns Sys Supt</i>	PROJECT 2228: <i>Technical Applications Programs</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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	
Technology Applications LMSS	SS/CPFF	LMSS:CA	149.795	9.530	Dec 2011	10.000	Oct 2012	-		10.000	Continuing	Continuing	Continuing
Technology Applications NSWC	WR	NSWC:VA	83.710	6.825	Oct 2011	7.225	Oct 2012	-		7.225	Continuing	Continuing	Continuing
Technology Applications DOE	MIPR	DOE:NM	30.558	1.406	Oct 2011	1.663	Oct 2012	-		1.663	Continuing	Continuing	Continuing
Technology Applications ITT	SS/CPFF	ITT:CO	10.799	-	Oct 2011	-	Oct 2012	-		-	Continuing	Continuing	Continuing
Technology Applications CSDL	SS/CPFF	CSDL:MA	280.731	23.106	Nov 2011	19.370	Oct 2012	-		19.370	Continuing	Continuing	Continuing
Technology Applications AERO	SS/CPFF	AERO:CA	1.134	1.137	Jul 2012	1.461	Oct 2012	-		1.461	Continuing	Continuing	Continuing
Technology Applications VAR	Various	Various:Various	18.224	0.093	Oct 2011	-	Oct 2012	-		-	Continuing	Continuing	Continuing
Subtotal			574.951	42.097		39.719		-		39.719			

Project Cost Totals	Total Prior Years Cost	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
	574.951	42.097	39.719	-	39.719			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101221N: <i>Strategic Sub & Wpns Sys Supt</i>	PROJECT 2228: <i>Technical Applications Programs</i>
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Proj 2228	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101221N: <i>Strategic Sub & Wpns Sys Supt</i>	PROJECT 2228: <i>Technical Applications Programs</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2228				
RSAP Contract Go-ahead and Milestones	1	2011	1	2016
RSAP Design Development Evaluation Alternative Heat Shield	1	2011	4	2016
RSAP Design Development Evaluation Avionics Battery	1	2011	4	2016
RSAP Design Development Evaluation Avionics Computers	1	2011	4	2016
RSAP System Test	1	2011	4	2016
GAP Contract Award	1	2011	1	2013
GAP Virtual Systems modeling and simulation trade studies for advanced system concepts	1	2011	4	2013
GAP Complete investigation concepts for enhanced systems test & analysis	1	2011	4	2013
GAP Evaluation of emerging alternate accelerometer technologies	1	2011	4	2013
GAP Evaluation of emerging alternate gyro technologies	1	2011	4	2013
GAP Assess feasibility, design, and demonstration of advanced strategic stellar sensor technologies	1	2011	4	2013

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy								DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0101221N: <i>Strategic Sub & Wpns Sys Supt</i>				PROJECT 3158: <i>Integrated Nuclear Weapons Security Sys Dev</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
3158: <i>Integrated Nuclear Weapons Security Sys Dev</i>	4.313	4.605	4.597	-	4.597	4.601	4.604	4.686	4.767	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Enhanced Special Weapons effort supports the Nuclear Weapons Security program and SSBN Escort mission. The policies and requirements regarding the safeguard of nuclear weapons within the Department of Defense is established by DoD S5210.41M. Within the Department of the Navy, nuclear weapons are limited to TRIDENT Fleet Ballistic Missiles (FBM), either deployed aboard TRIDENT submarines or located landside at Naval Submarine Base, Kings Bay or Naval Submarine Base, Bangor where missiles are first assembled as well as repaired. The Chief of Naval Operations (CNO) has assigned the Strategic Systems Programs, the FBM program manager, with mission responsibility for the safeguard of FBM nuclear assets. More specifically, the mission includes landside and pier operations as well as transits to and from the dive point, each of which present challenges to personnel as well as existing technologies. This budget supports efforts directed at improving the current technological baseline through a series of studies focusing on land, waterside, and in transit requirements, including both surface and underwater. Collectively, these efforts will improve countermeasure technologies addressing detection, delay and denial.

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

	FY 2011	FY 2012	FY 2013
Title: NWSPE Development	4.313	4.605	4.597
Articles:	0	0	0
FY 2011 Accomplishments:			
FY 2011 efforts include:			
(\$4.313) Enhanced Special Weapons/Nuclear Weapons Security program.			
Continue efforts focused on developing an advanced underwater vehicle and diver detection and deterrence system, and enhanced underwater and surface barriers.			
Continue development of advanced technologies for Site-Wide Nuclear Weapons Security Systems including a secure wireless command network and enhanced automated security systems.			
Continue development of advanced technologies for Limited Area/Convoy Route Nuclear Weapons Security Systems including extended perimeter detection, vehicle barrier systems at entry control points, and enhanced tracking capabilities.			
Technology Reviews: The systems will undergo further testing prior to production decisions.			
FY 2012 Plans:			
FY 2013 efforts include:			
(\$4.605) Enhanced Special Weapons/Nuclear Weapons Security program.			
Continue efforts focused on developing an advanced underwater vehicle and diver detection and deterrence system, and enhanced underwater and surface barriers.			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101221N: <i>Strategic Sub & Wpns Sys Supt</i>	PROJECT 3158: <i>Integrated Nuclear Weapons Security Sys Dev</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Continue development of advanced technologies for Site-Wide Nuclear Weapons Security Systems including a secure wireless command network and enhanced automated security systems. Continue development of advanced technologies for Limited Area/Convoy Route Nuclear Weapons Security Systems including extended perimeter detection, vehicle barrier systems at entry control points, and enhanced tracking capabilities. Technology Reviews: The systems will undergo further testing prior to production decisions. FY 2013 Plans: FY 2012 efforts include: (\$4.597) Enhanced Special Weapons/Nuclear Weapons Security program. Continue efforts focused on developing an advanced underwater vehicle and diver detection and deterrence system, and enhanced underwater and surface barriers. Continue development of advanced technologies for Site-Wide Nuclear Weapons Security Systems including a secure wireless command network and enhanced automated security systems. Continue development of advanced technologies for Limited Area/Convoy Route Nuclear Weapons Security Systems including extended perimeter detection, vehicle barrier systems at entry control points, and enhanced tracking capabilities. Technology Reviews: The systems will undergo further testing prior to production decisions.			
Accomplishments/Planned Programs Subtotals	4.313	4.605	4.597

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

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• MCN/Various-1: <i>MILCON (CNI)</i> <i>(Nuclear Weapons Security)</i>	101.387	43.842	54.910	0.000	54.910	0.000	0.000	0.000	24.730	Continuing	Continuing
• OPN/Various-2: <i>OPN (Nuclear Weapons Security)</i>	47.556	56.481	59.907	0.000	59.907	50.529	47.961	66.649	67.822	Continuing	Continuing
• OMN/11D2D-3: <i>Fleet Ballistic Missile (Nuclear Weapons Security)</i>	75.196	77.002	79.760	0.000	79.760	85.191	88.739	90.280	91.815	Continuing	Continuing
• OMN/11D2D-5: <i>Fleet Ballistic Missile (Transit/Escort)</i>	133.378	130.290	93.256	0.000	93.256	83.834	86.965	88.658	90.684	Continuing	Continuing
• OPN/Various-7: <i>OPN (Transit/Escort)</i>	2.000	2.037	2.074	0.000	2.074	2.103	2.137	2.178	2.216	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101221N: <i>Strategic Sub & Wpns Sys Supt</i>	PROJECT 3158: <i>Integrated Nuclear Weapons Security Sys Dev</i>

D. Acquisition Strategy

Procurements are being executed through a combination of private contractors (large and small business), government Centers of Excellence (COEs), other government agencies and the Naval Submarine Bases, Kitsap and Kings Bay. Contract awards are based upon "best value" determinations, and where practical will be performance based or include incentive provisions.

E. Performance Metrics

Not applicable

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101221N: <i>Strategic Sub & Wpns Sys Supt</i>	PROJECT 3158: <i>Integrated Nuclear Weapons Security Sys Dev</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 Nuclear Weapons Security Sys Dev	WR	NFESC:CA	1.355	0.410	Nov 2011	0.500	Oct 2012	-		0.500	Continuing	Continuing	Continuing
Integrated Nuclear Weapons Security Sys Dev	WR	CNWS:CA	0.404	-	Oct 2011	-	Oct 2012	-		-	Continuing	Continuing	Continuing
Integrated Nuclear Weapons Security Sys Dev	SS/CPFF	JHU APL:MD	1.819	1.043	Oct 2011	0.492	Oct 2012	-		0.492	Continuing	Continuing	Continuing
Integrated Nuclear Weapons Security Sys Dev	WR	SNSW:CA	2.194	1.532	Dec 2011	0.550	Oct 2012	-		0.550	Continuing	Continuing	Continuing
Integrated Nuclear Weapons Security Sys Dev	WR	NSWC:VA	2.017	0.500	Oct 2011	0.300	Oct 2012	-		0.300	Continuing	Continuing	Continuing
Integrated Nuclear Weapons Security Sys Dev	SS/CPFF	JRC:VA	0.501	0.250	Oct 2011	0.816	Oct 2012	-		0.816	Continuing	Continuing	Continuing
Integrated Nuclear Weapons Security Sys Dev	WR	NUWC:RI	0.450	0.345	Nov 2011	0.093	Oct 2012	-		0.093	Continuing	Continuing	Continuing
Integrated Nuclear Weapons Security Sys Dev	WR	NEDU:FL	0.383	-	Oct 2011	-	Oct 2012	-		-	Continuing	Continuing	Continuing
Integrated Nuclear Weapons Security Sys Dev	SS/CPFF	LMMS:CA	0.506	0.200	Feb 2012	0.456	Oct 2012	-		0.456	Continuing	Continuing	Continuing
Integrated Nuclear Weapons Security Sys Dev	MIPR	DOEI:ID	0.180	-	Oct 2011	-	Oct 2012	-		-	Continuing	Continuing	Continuing
Integrated Nuclear Weapons Security Sys Dev	MIPR	DOE:NM	0.300	0.125	Oct 2011	-	Oct 2012	-		-	Continuing	Continuing	Continuing
Integrated Nuclear Weapons Security Sys Dev	SS/CPFF	ARL:TX	-	0.200	Oct 2011	0.768	Oct 2012	-		0.768	Continuing	Continuing	Continuing
Integrated Nuclear Weapons Security Sys Dev	WR	NUWD:WA	-	-	Oct 2011	0.622	Oct 2012	-		0.622	0.000	0.622	
Subtotal			10.109	4.605		4.597		-		4.597			
Project Cost Totals			10.109	4.605		4.597		-		4.597			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101221N: <i>Strategic Sub & Wpns Sys Supt</i>	PROJECT 3158: <i>Integrated Nuclear Weapons Security Sys Dev</i>
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	Total Prior Years Cost	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
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Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101221N: <i>Strategic Sub & Wpns Sys Supt</i>	PROJECT 3158: <i>Integrated Nuclear Weapons Security Sys Dev</i>
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Proj 3158	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101221N: <i>Strategic Sub & Wpns Sys Supt</i>	PROJECT 3158: <i>Integrated Nuclear Weapons Security Sys Dev</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 3158				
NWS Contract Go-ahead and Milestones	1	2011	4	2016
NWS Technology Development Strategies	1	2011	4	2016
NWS Capabilities Assessment	1	2011	4	2016
NWS Technology Maturation	1	2011	4	2016
NWS System Development & Demonstration Phase	1	2011	4	2016

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY			R-1 ITEM NOMENCLATURE								
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>			PE 0101224N: <i>SSBN Security Tech Program</i>								
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	33.824	33.519	34.729	-	34.729	35.477	35.891	36.513	37.234	Continuing	Continuing
0092: <i>SSBN Security</i>	33.824	33.519	34.729	-	34.729	35.477	35.891	36.513	37.234	Continuing	Continuing

A. Mission Description and Budget Item Justification

The details of this program element are classified SECRET and are submitted annually to Congress in the classified budget justification books.

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	34.997	33.553	34.834	-	34.834
Current President's Budget	33.824	33.519	34.729	-	34.729
Total Adjustments	-1.173	-0.034	-0.105	-	-0.105
• Congressional General Reductions	-	-0.034			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.994	-			
• Program Adjustments	-	-	-0.083	-	-0.083
• Rate/Misc Adjustments	-	-	-0.022	-	-0.022
• Congressional General Reductions Adjustments	-0.179	-	-	-	-

Change Summary Explanation

Technical: Not applicable.
Schedule: Not applicable.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101224N: <i>SSBN Security Tech Program</i>	PROJECT 0092: <i>SSBN Security</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
0092: <i>SSBN Security</i>	33.824	33.519	34.729	-	34.729	35.477	35.891	36.513	37.234	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The details of this program element are classified SECRET and are submitted annually to Congress in the classified budget justification books.

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

	FY 2011	FY 2012	FY 2013
Title: SSBN Security	33.824	33.519	34.729
Articles:	0	0	0
Description: N/A			
FY 2011 Accomplishments: N/A			
FY 2012 Plans: N/A			
FY 2013 Plans: N/A			
Accomplishments/Planned Programs Subtotals	33.824	33.519	34.729

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

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE										
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	PE 0101226N: <i>Submarine Acoustic War Dev</i>										
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	6.620	6.360	1.434	-	1.434	1.553	3.376	3.417	3.238	Continuing	Continuing
1265: <i>Sub Defensive Warfare</i>	6.620	6.360	1.434	-	1.434	1.553	3.376	3.417	3.238	Continuing	Continuing

A. Mission Description and Budget Item Justification

This project develops a Submarine Defensive Warfare System (SDWS) to improve the effectiveness and survivability of all U.S. Submarine classes.

This project funds the Next Generation Countermeasure (NGCM) efforts which entail simulating and determining the effectiveness of new technologies and capabilities developed under the Future Naval Capabilities (FNC), Small Business and Innovative Research (SBIR), and other Research, Development, Test & Evaluation (RDT&E) initiatives. New and emerging hardware and software are rigorously evaluated in a representative acoustic environment, through both digital and hardware-in-the-loop simulations, to determine their readiness for inserting this technology into the NGCM.

The key new capabilities are adaptive countermeasure (ACM) with a full duplex and mobility.

Funding provides In-Service Engineering Agent and Technical Direction Agent hardware/software support for in-service CSA MK 2 and CSA MK 3 systems, including obsolete unit-level Technical Refresh. Additionally, CSA MK 3 system-level modernization (TACLAN integration/Technical Insertion) has been initiated.

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	6.815	6.360	6.438	-	6.438
Current President's Budget	6.620	6.360	1.434	-	1.434
Total Adjustments	-0.195	-	-5.004	-	-5.004
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.160	-			
• Program Adjustments	-	-	-5.000	-	-5.000
• Rate/Misc Adjustments	-	-	-0.004	-	-0.004
• Congressional General Reductions Adjustments	-0.035	-	-	-	-

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101226N: <i>Submarine Acoustic War Dev</i>
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Change Summary Explanation

Funding: NGCM deferred beyond the FYDP (\$5M FY13 reduction); \$.004 FY13 reduction based on rate adjustment.

Technical: Impacts from reduction not yet determined.

Schedule: Reduction will result in 5-7 year delay in NGCM program.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101226N: <i>Submarine Acoustic War Dev</i>	PROJECT 1265: <i>Sub Defensive Warfare</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
1265: <i>Sub Defensive Warfare</i>	6.620	6.360	1.434	-	1.434	1.553	3.376	3.417	3.238	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 Submarine Defensive Warfare System (SDWS) to improve the effectiveness and survivability of all U.S. Submarine classes. This project funds the Next Generation Countermeasure (NGCM) efforts which entail simulating and determining the effectiveness of new technologies and capabilities developed under the Future Naval Capabilities (FNC), Small Business and Innovative Research (SBIR), and other Research, Development, Test & Evaluation (RDT&E) initiatives. New and emerging hardware and software are rigorously evaluated in a representative acoustic environment, through both digital and hardware-in-the-loop simulations, to determine their readiness for inserting this technology into the NGCM. The key new capabilities are adaptive countermeasure (ACM) with a full duplex and mobility. Funding provides In-Service Engineering Agent and Technical Direction Agent hardware/software support for in-service CSA MK 2 and CSA MK 3 systems, including obsolete unit-level Technical Refresh. Additionally, CSA MK 3 system-level modernization (TACLAN ntegration/ Technical Insertion) has been initiated.

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

	FY 2011	FY 2012	FY 2013
Title: Sub Defensive Warfare	6.620	6.360	1.434
Articles:	0	5	0
FY 2011 Accomplishments:			
<ul style="list-style-type: none"> - Completed baselining the Test and Evaluation Master Plan (TEMP). - Conducted System Requirements Review (SRR), Preliminary Design Review (PDR) and Critical Design Review (CDR). - Refined NGCM-to-CSA interface requirements. - NGCM contractors started internal Contractor Testing (CT) to refine designs. 			
FY 2012 Plans:			
<ul style="list-style-type: none"> - Integration of Technology Insertions. - Conduct Critical Design Reviews (CDRs). - FY12 units are for 5 Special Test Units (STUs) from each developer. 			
FY 2013 Plans:			
<ul style="list-style-type: none"> - Continue Integration of Technology Insertions. - Start Contractor Testing. 			
Accomplishments/Planned Programs Subtotals	6.620	6.360	1.434

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101226N: <i>Submarine Acoustic War Dev</i>	PROJECT 1265: <i>Sub Defensive Warfare</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPN/221000/221005: <i>Submarine Acoustic Warfare</i>	18.438	20.554	21.489	0.000	21.489	22.488	25.891	26.198	29.164	Continuing	Continuing

D. Acquisition Strategy

This project develops a Submarine Defensive Warfare System (SDWS) to improve the effectiveness and survivability of all U.S. Submarine classes. The integration of technology insertion into the Next Generation Countermeasure (NGCM) and the NGCM-Capable CSA MK3 system will continue through FY15. The development and procurement will be through a full and open competition for a cost-plus-fixed-fee contract which delivers NGCM Engineering Development Models (EDMs) to the Navy. The NGCM development contracts awarded in 1Q-2011. NGCM contractor's testing and the Development Testing involving the Navy will be in FY13-15.

E. Performance Metrics

Milestone Reviews

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101226N: <i>Submarine Acoustic War Dev</i>	PROJECT 1265: <i>Sub Defensive Warfare</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
WAF ANALYSIS SYSTEM ENGINEERING	WR	NUWC:NEWPORT, RI	10.000	1.436	Dec 2011	0.185	Dec 2012	-		0.185	Continuing	Continuing	Continuing
NGCM SYSYTEM ENGINEERING	WR	NUWC:NEWPORT, RI	13.064	0.500	Dec 2011	0.253	Dec 2012	-		0.253	Continuing	Continuing	Continuing
NGCM DEVELOPMENT 1	C/CPAF	Argon ST:Fairfax, VA	5.218	1.990	Feb 2012	0.383	Dec 2012	-		0.383	Continuing	Continuing	Continuing
NGCM DEVELOPMENT 2	C/CPAF	Ultra:Braintree, MA	5.218	1.991	Feb 2012	0.383	Dec 2012	-		0.383	0.000	7.592	
NGCM SYSTEM ENGINEERING	WR	NUWC:KEPORT, WA	1.020	0.118	Dec 2011	0.100	Dec 2012	-		0.100	Continuing	Continuing	Continuing
Subtotal			34.520	6.035		1.304		-		1.304			

Remarks
NGCM Development contracts awarded 12/22/2010 to Argon ST and Ultra.

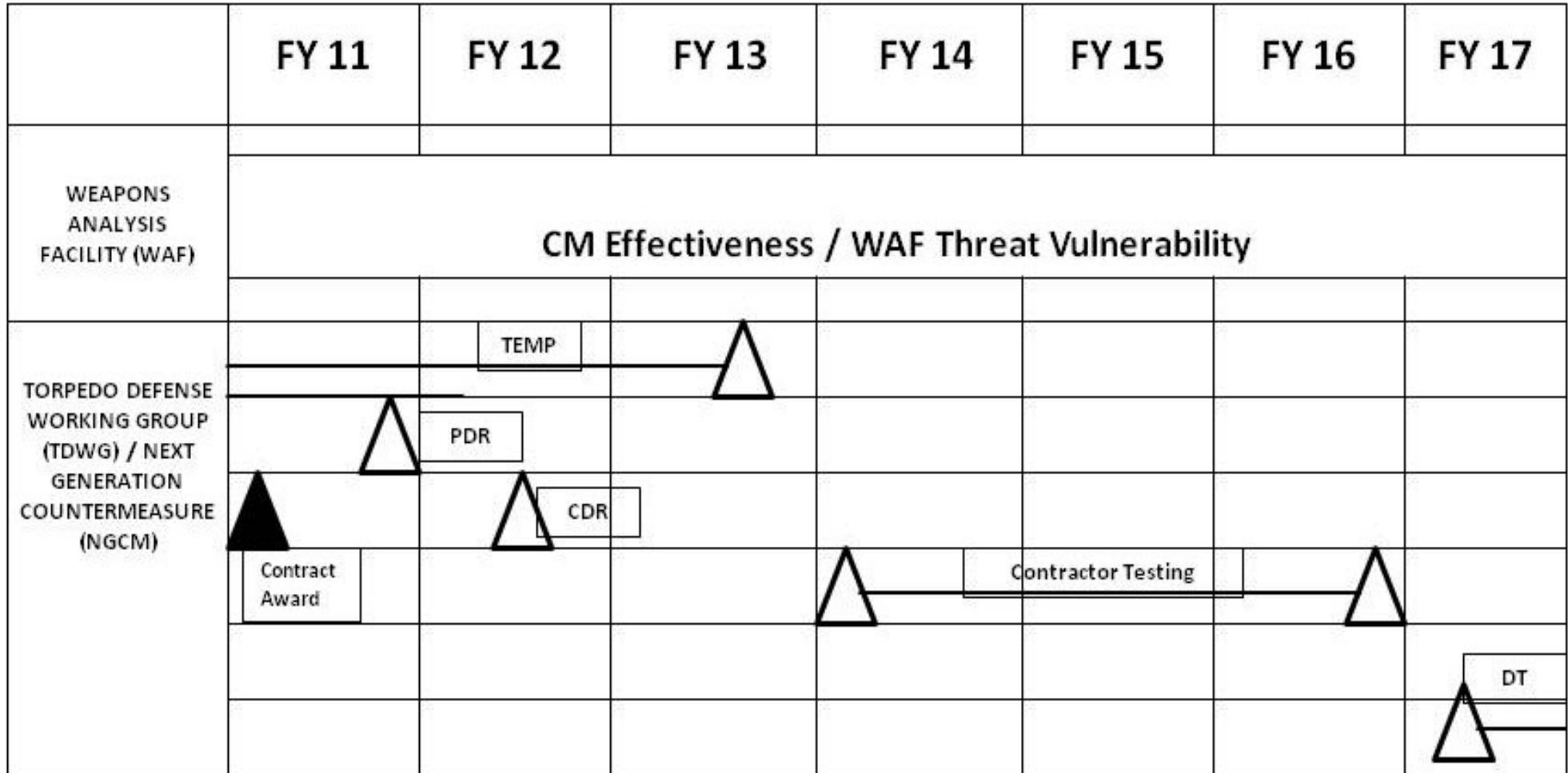
Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
ACQUISITION WORKFORCE	Various	Not Specified:Not Specified	0.036	-		-		-		-	0.000	0.036	0.036
TRAVEL	WR	NAVSEA:Washington, DC	0.425	0.075	Nov 2011	0.030	Oct 2012	-		0.030	Continuing	Continuing	Continuing
PROGRAM MANAGEMENT SUPPORT	C/CPAF	TECH MARINE:BURKE, VA	0.800	0.250	Feb 2012	0.100	Nov 2012	-		0.100	Continuing	Continuing	Continuing
Subtotal			1.261	0.325		0.130		-		0.130			

			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			35.781	6.360		1.434		-		1.434			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101226N: <i>Submarine Acoustic War Dev</i>	PROJECT 1265: <i>Sub Defensive Warfare</i>



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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101226N: <i>Submarine Acoustic War Dev</i>	PROJECT 1265: <i>Sub Defensive Warfare</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 1265				
COUNTERMEASURE (CM) EFFECTIVENESS/WEAPON ANALYSIS FACILITY (WAF) VULNERABILITY	1	2011	4	2017
CONTRACT AWARD	1	2011	1	2011
TEST & EVALUATION MASTER PLAN (TEMP)	1	2011	3	2013
PRELIMINARY DESIGN REVIEW (PDR)	4	2011	4	2011
CRITICAL DESIGN REVIEW (CDR)	3	2012	3	2012
CONTRACTOR TESTING	1	2014	4	2016
DEVELOPMENTAL TESTING (DT)	1	2017	4	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	9.492	23.208	19.208	-	19.208	25.231	15.400	12.811	13.734	Continuing	Continuing
1083: <i>Shore To Ship Com System</i>	-	14.430	18.187	-	18.187	25.231	15.400	12.811	13.734	Continuing	Continuing
3002: <i>Navy Strategic Comm Project</i>	9.492	8.778	1.021	-	1.021	-	-	-	-	0.000	19.291

A. Mission Description and Budget Item Justification

The Shore to Ship Communications System develops communication system elements which provide positive command and control of deployed submarines. The Shore to Ship Communications System provides continuous assessment of the command and control links between the National Command Authority and missile platforms and is conducted to ensure compliance with Nuclear Technical Performance Criteria (NTPC). The Shore to Ship Communications System addresses joint system design issues for Emergency Action Message (EAM) distribution to all nuclear platforms and provides evaluation of joint interoperability of EAM delivery systems. Tools are developed to provide strategic command and control planning within the submarine shore infrastructure to support deployed ballistic missile submarines.

Funds will be used for development activities necessary to increase development in Low Band Universal Communications System (LBUCS) to reach Milestone C.

The E-6B Block I modification program corrects Airborne National Command Post program Follow-On Operational Test and Evaluation operational suitability deficiencies and addresses legacy system obsolescence issues. Without the Block I program, legacy system obsolescence will result in several unsupportable mission systems. Block I designs, develops, integrates, and tests a multi-level security system, open systems architecture; replaces the intercommunications and Mission Computer Set; modifies the cooling, electrical, and Ultra-High Frequency Command, Control and Communications system; and addresses internet protocol bandwidth expansion impacts to pre-Block I baseline aircraft. Block I adds operator workstations throughout the aircraft to reduce workload and improve system interoperability, and provides a foundation for evolutionary upgrades. Other modifications (Block IA engineering change proposal) include: an additional auxiliary power unit to enhance power and cooling capabilities supporting the additional systems in the multi-level security system, open systems architecture, a very low frequency transmitter obsolescence replacement, and a high power transmit set subsystem refurbishment.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>
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B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	10.331	23.208	20.431	-	20.431
Current President's Budget	9.492	23.208	19.208	-	19.208
Total Adjustments	-0.839	-	-1.223	-	-1.223
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.533	-			
• SBIR/STTR Transfer	-0.253	-			
• Program Adjustments	-	-	-1.198	-	-1.198
• Rate/Misc Adjustments	-	-	-0.025	-	-0.025
• Congressional General Reductions Adjustments	-0.053	-	-	-	-

Change Summary Explanation

Schedule:

(1083) LBUCS: LBUCS Transmit incurred a one-year delay to Milestone C. Schedule delays were realized due to two issues: award of the LBUCS Transmit development contract was delayed due to longer than anticipated proposal evaluation; and implementation of technical changes were necessary after review of the contractor's Preliminary Design Review (PDR) package.

(3002) Due to testing deficiencies and delays, the Systems Integration Lab (SIL) and Aircraft Developmental Testing for Block I was extended to 4Q FY10. This caused a delay in the Block I operational testing and operational evaluation (OPEVAL). The Low Rate Initial Production was extended to 3Q FY13. The Block I full rate production decision and contract award was delayed until 3Q FY12 - until the completion of the Block I operational testing and OPEVAL.
Technical: Not applicable.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>	PROJECT 1083: <i>Shore To Ship Com System</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
1083: <i>Shore To Ship Com System</i>	-	14.430	18.187	-	18.187	25.231	15.400	12.811	13.734	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

Funding for this project transferred from PE 0204163N beginning in FY12.

A. Mission Description and Budget Item Justification

This program develops communication system elements which provide positive Nuclear Command, Control and Communications (NC3) from originator to execution platforms. This portfolio of programs provides design and development for shore-to-ship transmit and receive communications systems.

The Low Band Universal Communications System (LBUCS) is a modernization program that will upgrade the transmit and receive subsystems of the Fixed Submarine Broadcast System (FSBS) which are approaching their operational end of life. LBUCS will ensure operational capability through the Very Low Frequency (VLF) architecture by providing system life extension and flexibility of submarine broadcast traffic to submarines operating in a stealth posture. The flexibility includes enhanced throughput and anti-jam capability, ensuring more operational products are delivered to a submarine without risking mast exposure. The flexibility further includes a simplified shore architecture to maintain capability while maximizing use of shore nodes (Broadcast Keying Sites). LBUCS also provides an upgrade to the VLF receive system, with all interoperable waveforms, to ensure continued compliance with Nuclear Technical Performance Criteria.

The NC3 Long Term Solution (LTS) will provide an assessment of Information Assurance (IA) measures and alternatives to the legacy Nova messaging system and NC3 Information eXchange Terminal (NIXT) which supports the dissemination of Emergency Action Messages (EAMs) and other NC2 messages between Senior Leadership (The President of the United States, Secretary of Defense, and Chairman of the Joint Chiefs of Staff), Combatant Commanders and United States nuclear force elements.

The Strategic Communications Assessment Program /Continued Evaluation Program provides constant assessment of the effectiveness of the end-to-end NC2 network and analysis of system performance in various mission locations.

Concept Development/System Planning provides Network Enabled Operation (NEO) that addresses Allied interoperability issues for submarine communications in an internet protocol environment. As new technologies are realized, coalition architectures are developed and tested to ensure continued interoperability. The United States/United Kingdom VLF Project Agreement provides mutual improvements to VLF transmission and reception capabilities for submarine operations by evolving and demonstrating modern technologies and advanced waveform techniques. Concept Development/System Planning also provides for the modeling of unique Very Low Frequency/Low Frequency (VLF/LF) submarine communications capabilities which include large physical shore broadcast antennas, underwater depth penetration studies and interoperable VLF waveform analysis. Technologies to improve high voltage insulators, helix house bushings and antenna components used in the fixed VLF transmit systems are evaluated and tested through the High Voltage Improvement Program. Development of information assurance solutions for the Broadcast Control Authority (BCA) and Submarine Operating Authority wide area network are being investigated to mitigate vulnerability concerns.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>	PROJECT 1083: <i>Shore To Ship Com System</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<p>Title: Low Band Universal Communication System (LBUCS)</p> <p>Articles:</p> <p>FY 2012 Plans: -Complete technical readiness review for transmit terminal. -Take receipt of LBUCS Transmit production representative articles. -Complete statutory and regulatory acquisition documentation in preparation for FY13 LBUCS Transmit Milestone C, including the capability production document and information support plan. -Commence LBUCS Transmit Developmental Testing (DT) and Operational Assessment (OA).</p> <p>FY 2013 Plans: -Complete LBUCS Transmit DT and OA. -Achieve LBUCS Transmit Milestone C. -Commence LBUCS Receive development. -Complete LBUCS Receive Preliminary Design Review (PDR) and Critical Design Review (CDR). -Commence development of a new Very Low Frequency (VLF) mode, which will be incorporated into the LBUCS Receive development effort. -Commence Submarine Operating Authority Wide Area Network (SWAN) Information Assurance(IA) upgrade development.</p>		-	7.525 0	13.281 0
<p>Title: Nuclear Command, Control, Communications Long Term Solution (NC3 LTS)</p> <p>Articles:</p> <p>FY 2012 Plans: -Complete Navy NC3 Assessment.</p>		-	1.994 0	-
<p>Title: Strategic Communications Assessment Program (SCAP)/Continuing Evaluation Program (CEP)</p> <p>Articles:</p> <p>FY 2012 Plans: -Continue mission analysis of Ship Submersible Ballistic Nuclear Submarine (SSBN) Emergency Action Message (EAM) reception for SSBN patrols. -Provide reports on performance, adherence to delivery time requirements and shortfalls. -Continue development of automated data collection and analysis tools to reduce latency time between missions and results availability.</p> <p>FY 2013 Plans: -Continue mission analysis of SSBN EAM reception for SSBN patrols. -Provide reports on performance, adherence to delivery time requirements and shortfalls.</p>		-	2.953 0	3.084 0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>	PROJECT 1083: <i>Shore To Ship Com System</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
-Complete development of automated data collection and analysis tools to reduce latency time between missions and results availability.				
Title: Concept Development/Systems Planning		-	0.819 0	0.804 0
Articles:				
FY 2012 Plans: -Continue the integration of Joint/Allied Network Enabled Operation (NEO) with C4I applications.				
FY 2013 Plans: -Prepare and submit final NEO report to include results and recommendations. -Commence United States/United Kingdom Very Low Frequency (VLF) Project Agreement (PA). -Assess US/UK performance requirements to determine which concepts to pursue.				
Title: High Voltage Improvement Program		-	0.834 0	0.749 0
Articles:				
FY 2012 Plans: -Complete examination of aging for laminated wood used in VLF/LF Helix Houses. -Complete examination of new ferrites to reduce the loss and size of the VLF/LF Helix House enclosure. -Complete examination of partial-discharge for early detection of Helix House issues. -Complete examination of outdoor Helix House effort. -Commence examination of aging for multi-conductor High-Q inductor cable used in VLF/LF Helix Houses.				
FY 2013 Plans: -Continue examination of aging for multi-conductor High-Q inductor cable used in VLF/LF Helix Houses. -Commence examination of innovative lighting methods for high voltage VLF/LF towers.				
Title: Broadcast Control Authority		-	0.305 0	0.269 0
Articles:				
FY 2012 Plans: -Commence development of Submarine Operating Authority (SUBOPAETH) communications tools including file repository, Operation Schedule (OpSked) Editor, Submarine Notes (SubNotes) Editor, and Web Off The Air Monitor (WebOTAM). -Continue to develop candidate SUBOPAETH options for information assurance integration.				
FY 2013 Plans:				

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>	PROJECT 1083: <i>Shore To Ship Com System</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
-Continue development of SUBOPAATH communications tools including file repository, OpSked Editor, SubNotes Editor, and WebOTAM.			
Accomplishments/Planned Programs Subtotals	-	14.430	18.187

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

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• OPN/3107: <i>Submarine Broadcast</i>	0.000	10.357	4.183	0.000	4.183	4.986	13.346	25.186	23.573	Continuing	Continuing

D. Acquisition Strategy
 Low Band Universal Communications System (LBUCS): LBUCS is the modernization program that will upgrade the Transmit and Receive subsystems of the Fixed Submarine Broadcast System which are approaching their operational end of life. A cost plus incentive fee contract was awarded for Transmit subsystem development in 4Q FY09 with three sequential fixed price options Contract Line Item Numbers for production and deployment. The development of LBUCS Receive will commence in FY13.

E. Performance Metrics
 LBUCS FY13: Complete LBUCS Transmit developmental testing and operational assessment. Achieve LBUCS Transmit Milestone C. Complete LBUCS Receive preliminary design review and critical design review.
 Strategic Communications Assessment Program/Continuing Evaluation Program FY13: Delivery of Submersible Ballistic Nuclear Submarine (SSBN) patrol reports.
 Concept Development FY13: Delivery of final Network Enabled Operations (NEO) report. Assessment report of United States/United Kingdom Very Low Frequency (VLF) performance requirements and recommendation of best VLF concepts to pursue.
 High Voltage Improvement Program FY13: Continue examination of aging for multi-conductor High-Q inductor cable. Commence examination of innovative lighting methods for high voltage VLF/LF towers.
 Broadcast Control Authority FY13: Delivery of design options to incorporate information assurance capability.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>	PROJECT 1083: <i>Shore To Ship Com System</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 PAC:San Diego, CA	50.733	-		-		-		-	Continuing	Continuing	Continuing
LBUCS: Systems Engineering	WR	SSC LANT:Charleston, SC	0.475	1.075	Oct 2011	2.610	Oct 2012	-		2.610	Continuing	Continuing	Continuing
LBUCS: Primary Hardware Development	C/CPIF	SAIC:San Diego, CA	10.340	1.010	Nov 2011	-		-		-	0.000	11.350	
Shore to Ship: Ancillary Hardware	WR	SSC PAC:San Diego, CA	0.147	-		-		-		-	Continuing	Continuing	Continuing
Shore to Ship: Systems Engineering	WR	SSC PAC:San Diego, CA	0.222	-		-		-		-	Continuing	Continuing	Continuing
Subtotal			61.917	2.085		2.610		-		2.610			

Remarks

Total prior years cost amounts shown are from PE 0204163N and are provided for context.

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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:San Diego, CA	4.853	2.354	Oct 2011	6.088	Oct 2012	-		6.088	Continuing	Continuing	Continuing
Software Development	WR	SSC PAC:San Diego, CA	11.912	0.455	Oct 2011	0.466	Oct 2012	-		0.466	Continuing	Continuing	Continuing
Acquisition/Program Development	WR	SSC PAC:San Diego, CA	1.506	0.275	Oct 2011	0.279	Oct 2012	-		0.279	Continuing	Continuing	Continuing
LBUCS: Logistics Support	C/CPFF	UNKNOWN:UNKNOWN	1.716	0.338	May 2012	0.363	Oct 2012	-		0.363	Continuing	Continuing	Continuing
LBUCS: Information Assurance	C/CPFF	Merdan Group:San Diego, CA	0.158	0.217	Oct 2011	0.272	Oct 2012	-		0.272	Continuing	Continuing	Continuing
LBUCS: Information Assurance	WR	SSC PAC:San Diego, CA	-	-		0.254	Oct 2012	-		0.254	Continuing	Continuing	Continuing
LBUCS: Technical Data	C/CPFF	ANSOL:San Diego, CA	0.158	0.182	Oct 2011	0.236	Oct 2012	-		0.236	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>	PROJECT 1083: <i>Shore To Ship Com System</i>
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Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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	
LBUCS: Acquisition/Program Development	C/CPFF	CSA:San Diego, CA	0.728	0.626	Oct 2011	0.740	Oct 2012	-		0.740	Continuing	Continuing	Continuing
LBUCS: Systems Engineering	C/CPFF	FSI:San Diego, CA	0.300	0.307	Oct 2011	0.307	Oct 2012	-		0.307	Continuing	Continuing	Continuing
LBUCS: Cost Estimating	C/CPFF	Booz Allen Hamilton:San Diego, CA	0.230	0.235	Oct 2011	0.235	Oct 2012	-		0.235	Continuing	Continuing	Continuing
NC3 LTS: Information Assurance	C/CPFF	Merdan Group:San Diego, CA	0.375	0.100	Oct 2011	-		-		-	0.000	0.475	
NC3 LTS: Technical Data	C/CPFF	ANSOL:San Diego, CA	0.884	0.200	Oct 2011	-		-		-	0.000	1.084	
NC3 LTS: Acquisition/Program Development	C/CPFF	CSA:San Diego, CA	1.208	0.346	Oct 2011	-		-		-	0.000	1.554	
NC3 LTS: Logistics Support	C/CPFF	TCl:San Diego, CA	0.972	-		-		-		-	0.000	0.972	
NC3 LTS: Systems Engineering	C/CPFF	FSI:San Diego, CA	0.920	-		-		-		-	0.000	0.920	
NC3 LTS: Systems Engineering	MIPR	MITRE:San Diego, CA	7.622	0.220	Oct 2011	-		-		-	0.000	7.842	
NC3 LTS: Cost Estimating	C/CPFF	Booz Allen Hamilton:San Diego, CA	0.227	0.232	Oct 2011	-		-		-	0.000	0.459	
Shore to Ship: Software Development	WR	SSC PAC:San Diego, CA	0.229	0.173	Oct 2011	0.207	Oct 2012	-		0.207	Continuing	Continuing	Continuing
Shore to Ship: Studies and Design	WR	SSC PAC:San Diego, CA	0.386	0.595	Oct 2011	0.800	Oct 2012	-		0.800	Continuing	Continuing	Continuing
Shore to Ship: Broadcast Control Authority	C/CPFF	Predicate Logic:San Diego, CA	0.524	0.305	Oct 2011	0.269	Oct 2012	-		0.269	Continuing	Continuing	Continuing
Subtotal			34.908	7.160		10.516		-		10.516			

Remarks
Total prior years cost amounts shown are from PE 0204163N and are provided for context.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>	PROJECT 1083: <i>Shore To Ship Com System</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
SCAP/CEP: Strategic OP Systems Performance Evaluation	C/CPFF	APL/JHU:Baltimore, MD	24.010	2.953	Dec 2011	3.081	Oct 2012	-		3.081	Continuing	Continuing	Continuing
LBUCS: System Testing	WR	COTF:Norfolk, VA	0.177	0.150	Oct 2011	0.300	Oct 2012	-		0.300	Continuing	Continuing	Continuing
LBUCS: System Testing	WR	SSC PAC:San Diego, CA	0.238	0.260	Oct 2011	0.316	Oct 2012	-		0.316	Continuing	Continuing	Continuing
NC3 LTS: System Testing	WR	COTF:Norfolk, VA	0.206	0.142	Oct 2011	-	Oct 2012	-		-	0.000	0.348	
Subtotal			24.631	3.505		3.697		-		3.697			

Remarks
Total prior years cost amounts shown are from PE 0204163N and are provided for context.

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	MIPR	MITRE:San Diego, CA	1.777	-		-		-		-	0.000	1.777	
LBUCS: Program Management	WR	SSC PAC:San Diego, CA	5.803	1.189	Oct 2011	1.264	Oct 2012	-		1.264	Continuing	Continuing	Continuing
LBUCS: Travel	WR	SSC PAC:San Diego, CA	0.266	0.100	Oct 2011	0.100	Oct 2012	-		0.100	Continuing	Continuing	Continuing
NC3 LTS: Government Engineering Support	WR	SSC PAC:San Diego, CA	4.082	0.325	Oct 2011	-	Oct 2012	-		-	0.000	4.407	
NC3: Travel	WR	SSC PAC:San Diego, CA	0.049	0.066	Oct 2011	-	Oct 2012	-		-	0.000	0.115	
Subtotal			11.977	1.680		1.364		-		1.364			

Remarks
Total prior years cost amounts shown are from PE 0204163N and are provided for context.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy							DATE: February 2012				
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>			R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>			PROJECT 1083: <i>Shore To Ship Com System</i>					
	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	133.433	14.430		18.187		-		18.187			

Remarks

FY 2011 amounts shown are from PE 0204163N and are provided for context.

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>	PROJECT 1083: <i>Shore To Ship Com System</i>
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Fiscal Year	2011				2012				2013				2014				2015				2016				2017			
	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 LBUCS Receive																												
Contractual Milestones/Timeline																												
Test & Evaluation																												
Equipment Procurement																												
Equipment Installation																												

EDM/Fielding Program Review

PDR CDR

PRA

DT/OA

Full Rate Production

Installation

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>	PROJECT 1083: <i>Shore To Ship Com System</i>

CLASSIFICATION:

EXHIBIT R-4, Schedule Profile Nuclear Command, Control Communications Systems Long Term Solution (NC3 LTS)	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0101402N FLEET TACTICAL DEVELOPMENT	PROJECT NUMBER AND NAME 1083 SHORE TO SHIP COM SYSTEM-NC3-LTS
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Fiscal Year	2011				2012				2013				2014				2015				2016				2017							
	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 Nuclear Command, Control Communications System Long Term Solution																																
Requirements Definition																																
Contractual Milestones/Timelines																																
Test & Evaluation:																																
Equipment																																

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy																						DATE: February 2012						
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development										R-1 ITEM NOMENCLATURE PE 0101402N: Navy Strategic Comms								PROJECT 1083: Shore To Ship Com System										
Fiscal Year	2011				2012				2013				2014				2015				2016				2017			
	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
Studies and Analysis Strategic Communications Assessment Program (SCAP) Continuing Evaluation Program (CEP)	←————— Ongoing —————→																											
Milestones and Deliverables	<div style="margin-left: 300px;"> ▲ Analysis Automation Toolset </div>																											
Contractual Milestones/Timelines	<div style="margin-left: 150px;"> ▲ Task Order Award </div>																											

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>	PROJECT 1083: <i>Shore To Ship Com System</i>
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 1083				
LBUCS: Production Representative Article (PRA) - Transmit	1	2011	2	2012
LBUCS: Capability Production Document (CPD) - Transmit	1	2011	3	2012
LBUCS: Critical Design Review (CDR) - Transmit	1	2011	1	2011
LBUCS: Technology Readiness Review (TRR) - Transmit	1	2012	1	2012
LBUCS: Developmental Test/Operational Assesment (DT/OA) - Transmit	4	2012	2	2013
LBUCS: Production Representative Article (PRA) - Receive	1	2013	4	2014
LBUCS: Milestone-C (MS-C) - Transmit	3	2013	3	2013
LBUCS: Production Design Review (PDR) - Receive	3	2013	3	2013
LBUCS: Critical Design Review (CDR) - Receive	4	2013	4	2013
LBUCS: Low Rate Initial Production (LRIP) - Transmit	4	2013	4	2013
LBUCS: Developmental Test/Technical Evaluation (DT/TE) - Transmit	2	2014	2	2014
LBUCS: Integrated Test (IT) - Transmit	3	2014	3	2014
LBUCS: Operational Test Readiness Review (OTRR) - Transmit	3	2014	3	2014
LBUCS: Operational Test (OT) - Transmit	4	2014	4	2014
LBUCS: Initial Operational Capability (IOC) - Transmit	1	2015	1	2015
LBUCS: Developmental Test/Operational Assesment (DT/OA) - Receive	1	2015	1	2015
LBUCS: Full Rate Production Milestone (FRP) - Transmit	1	2015	1	2015
LBUCS: EDM/Fielding Program Review (FPR) - Receive	2	2015	2	2015
LBUCS: Broadcast Keying Site (BKS) Full Rate Production (FRP) - Transmit	2	2015	4	2015
LBUCS: Broadcast Transmit Site (BTS) Full Rate Production (FRP) - Transmit	1	2016	4	2016
LBUCS: Full Rate Production (FRP) - Receive	2	2015	4	2017

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>	PROJECT 1083: <i>Shore To Ship Com System</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
LBUCS: Installation Broadcast Keying Site (BKS) - Transmit	1	2016	4	2016
LBUCS: Installation - Receive	1	2016	4	2017
LBUCS: Installation Broadcast Transmit Site (BTS) - Transmit	1	2017	4	2017
LBUCS: Full Operational Capability (FOC) - Transmit	4	2017	4	2017
NC3 LTS: Capabilities Design Document (CDD)	1	2011	2	2011
NC3 LTS: Test & Evaluation Master Plan (TEMP)	1	2011	1	2012
NC3 LTS: Navy NC3 Assessment	4	2012	4	2012
CEP: Studies and Analysis	1	2011	4	2017
CEP: Analysis Automation	3	2013	3	2013
CEP: Task Order	1	2013	1	2013

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>	PROJECT 3002: <i>Navy Strategic Comm Project</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
3002: <i>Navy Strategic Comm Project</i>	9.492	8.778	1.021	-	1.021	-	-	-	-	0.000	19.291
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The E-6B Block I modification program corrects Airborne National Command Post program Follow-On Operational Test and Evaluation operational suitability deficiencies and addresses legacy system obsolescence issues. Without the Block I program, legacy system obsolescence will result in several unsupportable mission systems. Block I designs, develops, integrates, and tests a Multi-Level Security (MLS) system, Open Systems Architecture (OSA); replaces the intercommunications and Mission Computer Set; modifies the cooling, electrical, and Ultra-High Frequency Command, Control and Communications system; and addresses Internet Protocol Bandwidth Expansion impacts to pre-Block I baseline aircraft. Block I adds operator workstations throughout the aircraft to reduce workload and improve system interoperability, and provides a foundation for evolutionary upgrades. Other modifications (Block IA Engineering Change Proposal (ECP)) include: an additional Auxiliary Power Unit to enhance power and cooling capabilities supporting the additional systems in the MLS system, OSA, a Very Low Frequency Transmitter obsolescence replacement, and a High Power Transmit Set subsystem refurbishment.

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

	FY 2011	FY 2012	FY 2013
<p>Title: Conduct Developmental Test (DT) Governmental Training</p> <p style="text-align: right;">Articles:</p> <p>FY 2011 Accomplishments: Completed Block I Developmental Testing (DT) and continued Block IA ECP DT Governmental Training efforts.</p> <p>FY 2012 Plans: Continue Block IA ECP DT Governmental Training efforts.</p> <p>FY 2013 Plans: Complete Block IA ECP DT Governmental Training efforts.</p>	5.230 0	0.280 0	0.250 0
<p>Title: Conduct DT Support Training</p> <p style="text-align: right;">Articles:</p> <p>FY 2011 Accomplishments: Continued work towards completion of Block IA ECP DT Support Training efforts.</p>	0.429 0	-	-
<p>Title: Prototype Aircraft Installation</p> <p style="text-align: right;">Articles:</p> <p>FY 2011 Accomplishments:</p>	3.833 0	8.000 0	0.771 0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>	PROJECT 3002: <i>Navy Strategic Comm Project</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Completed Block I Prototype Aircraft Installation efforts and continued Block IA ECP Prototype Aircraft Installation efforts. FY 2012 Plans: Continue Block IA ECP Prototype Aircraft Installation efforts. FY 2013 Plans: Complete Block IA ECP Prototype Aircraft Installation efforts.			
Title: Developmental/Operational Testing FY 2012 Plans: Begin and complete Block IA ECP operational testing to obtain a successful OPEVAL report.	-	0.498 0	-
Articles:			
Accomplishments/Planned Programs Subtotals	9.492	8.778	1.021

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

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• APN 056400: <i>E-6 A/B Series</i>	128.895	148.053	158.332	0.000	158.332	190.011	216.225	201.178	204.704	270.319	1,868.795

D. Acquisition Strategy

Competitively awarded Cost Plus Award Fee development contract. The current contract was modified on 13 April 2007 to a Cost Plus Incentive Fee contract. A new sole source Firm Fixed Price (FFP) contract was awarded for LRIP in 4th quarter of FY2010 with Full Rate Production being a new sole source follow-on FFP contract.

E. Performance Metrics

Block I Milestone C decision achieved in 3rd quarter FY2010.
FRP Contract Award planned for 3rd quarter FY2012.
Block I IOC planned for 1st quarter FY2014.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>	PROJECT 3002: <i>Navy Strategic Comm Project</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 Block I *	C/CPIF	Rockwell Collins:Cedar Rapids, IA	142.880	-		-		-		-	0.000	142.880	142.880
Award Fees	C/CPAF	Rockwell Collins:Cedar Rapids, IA	3.751	-		-		-		-	0.000	3.751	3.751
Primary Hardware Development Block IA ECP**	C/CPIF	Rockwell Collins:Cedar Rapids, IA	31.641	8.000	Dec 2011	0.771	Dec 2012	-		0.771	0.000	40.412	40.415
Ancillary Hardware Development	C/CPFF	Rockwell Collins:Cedar Rapids, IA	4.933	-		-		-		-	0.000	4.933	4.933
Training Development WST	C/CPIF	Rockwell Collins:Cedar Rapids, IA	1.213	-		-		-		-	0.000	1.213	1.213
Subtotal			184.418	8.000		0.771		-		0.771	0.000	193.189	193.192

Remarks
 * The Rockwell Collins Primary Hardware Development Block I contract was converted from a Competitively Awarded/Cost plus Award Fee to a Cost Plus Incentive Fee beginning in FY07.
 ** The Rockwell Collins Primary Hardware Development Block IA Engineering Change Proposal (ECP) contract was definitized in July 2010.

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 & Analyses	Various	Various:Not Specified	4.477	-		-		-		-	0.000	4.477	
Subtotal			4.477	-		-		-		-	0.000	4.477	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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:Patuxent River, MD	0.668	-		-		-		-	0.000	0.668	
Operational Test & Evaluation	WR	NAWCAD:Patuxent River, MD	2.148	-		-		-		-	0.000	2.148	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>	PROJECT 3002: <i>Navy Strategic Comm Project</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Other Support	WR	NAVAIR HQ:Patuxent River, MD	3.645	-		-		-		-	0.000	3.645	
Subtotal			6.461	-		-		-		-	0.000	6.461	

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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:Not Specified	13.700	-		-		-		-	0.000	13.700	
Governmental Support	Various	Various:Not Specified	37.728	0.498	Dec 2011	-		-		-	0.000	38.226	
Program Management Support	Various	Various:Not Specified	10.550	-		-		-		-	0.000	10.550	
Travel	WR	NAVAIR HQ:Patuxent River, MD	1.853	0.280	Nov 2011	0.250	Nov 2012	-		0.250	0.000	2.383	
Subtotal			63.831	0.778		0.250		-		0.250	0.000	64.859	

	Total Prior Years Cost	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		259.187	8.778	1.021	-	1.021	0.000	268.986

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>	PROJECT 3002: <i>Navy Strategic Comm Project</i>
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Navy Strategic Communications	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017						
	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																															
Production	LRIP																														
					FRP																										
Test and Evaluation																															
Technical Evaluation																															
Operational Evaluation	IOT&E																														
Production Milestones																															
Contract Awards																															
Decisions																															
Deliveries																															
LRIP Deliveries					LRIP																										
FRP Deliveries																															

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0101402N: <i>Navy Strategic Comms</i>	PROJECT 3002: <i>Navy Strategic Comm Project</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Navy Strategic Communications</i>				
Acquisition Milestones: Milestones: Initial Operational Capability (IOC)	1	2014	1	2014
Acquisition Milestones: Production: LRIP Phase (APN)	1	2011	3	2013
Acquisition Milestones: Production: Full Rate Production (FRP) (Blk I)	1	2012	4	2017
Test and Evaluation: Operational Evaluation: Operational Testing (OPEVAL) (Blk I)	1	2011	3	2011
Production Milestones: Contract Awards: Full Rate Production (FRP) Contract Award (Blk I)	3	2012	3	2012
Production Milestones: Decisions: Full Rate Production (FRP) Decision/Start (Blk I)	3	2012	3	2012
Deliveries: LRIP Deliveries: LRIP Block I Deliveries	4	2011	3	2013
Deliveries: FRP Deliveries: FRP Block I Deliveries	4	2013	4	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				PE 0203761N: <i>Rapid Technology Transition (RTT)</i>							
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	33.948	30.005	25.566	-	25.566	22.656	23.287	25.463	26.042	Continuing	Continuing
3126: <i>Rapid Technology Transition (RTT)</i>	18.222	18.724	12.548	-	12.548	8.845	8.328	7.543	7.090	Continuing	Continuing
3173: <i>Technology Insertion Program for Savings (TIPS)</i>	7.983	8.038	12.772	-	12.772	13.563	14.718	17.681	18.714	Continuing	Continuing
3174: <i>Rapid Development and Deployment (RDD)</i>	7.743	3.243	0.246	-	0.246	0.248	0.241	0.239	0.238	Continuing	Continuing

A. Mission Description and Budget Item Justification

RTT programs transition technology from any source, including those not traditionally associated with defense technology. An effective and robust integration of commercial and military technologies can reduce costs and improve naval capabilities by keeping pace with the fast moving changes in technologies and operational needs. The RTT program is comprised of three elements: The Rapid Technology Transition (RTT) program, the Technology Insertion Program for Savings (TIPS), and the Rapid Development and Deployment (RDD) program. The RTT and TIPS programs are structured to bring transition deals to closure quickly, and to provide execution year funding for a rapid start, bridging the gap until the program of record can fund the completion of the technology insertion. The RDD program is structured to quickly develop a prototype solution that will be deployed in theater for Naval forces engaged in Overseas Contingency Operations (OCO).

The mission of the RTT program is to increase the rate that new, innovative, and potentially disruptive technologies are inserted into Department of Navy (DON) acquisition programs and the hands of the warfighter.

The mission of the TIPS program is to increase the rate that new cutting edge technologies are inserted into DON acquisition programs in order to significantly reduce operations and maintenance support costs.

The RDD program provides for the rapid development and fielding of prototype solutions to meet urgent operational needs. The RDD process applies when existing DON processes cannot meet urgent operational needs. Overseas Contingency Operations (OCO) have generated rapidly evolving military needs that require responsive materiel solutions.

Rapid transition opportunities occur when a sufficiently mature technology is identified that can meet a particular need on a timetable which matches that of an acquisition program, and is supported by a business case which justifies the associated cost and schedule risk. The combination of circumstances which create such opportunities can appear, and disappear, well inside the Program Objectives Memorandum (POM) cycle. These programs are designed to be proactive in identifying opportunities and to work with resource sponsors, fleet and force users, and Program Managers (PMs) in constructing viable technology transition deals one at a time.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0203761N: <i>Rapid Technology Transition (RTT)</i>
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To ensure the widest possible awareness of emergent commercial technology opportunities, these programs interact with the industry and coordinate closely with Program Executive Offices (PEOs) and Program Managers (PMs) to maintain awareness of insertion opportunities. Utilizing existing authorities, RTT applies execution year funds where necessary to "jump-start" transitions so they can be inserted and validated by Sea Trial experiments leading directly to deployment and/or demonstrations of high risk/high payoff technologies. This Program Element is the only Navy program that addresses current, urgent requirements that are required by the fleet within a 18-24 month period. As such, planning and execution are accomplished within the same fiscal year, which causes a non-traditional financial execution profile for the program. The program therefore does not meet traditional execution benchmarks.

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	35.120	30.021	37.159	-	37.159
Current President's Budget	33.948	30.005	25.566	-	25.566
Total Adjustments	-1.172	-0.016	-11.593	-	-11.593
• Congressional General Reductions	-	-0.016			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.964	-			
• Program Adjustments	-	-	-11.562	-	-11.562
• Rate/Misc Adjustments	-	-	-0.031	-	-0.031
• Congressional General Reductions Adjustments	-0.208	-	-	-	-

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0203761N: <i>Rapid Technology Transition (RTT)</i>				PROJECT 3126: <i>Rapid Technology Transition (RTT)</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
3126: <i>Rapid Technology Transition (RTT)</i>	18.222	18.724	12.548	-	12.548	8.845	8.328	7.543	7.090	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 RTT project is to increase the rate that new, innovative, and potentially disruptive technologies are inserted into DON acquisition programs and the hands of the warfighter. A key aspect of the RTT project is its charter to transition technology from any source, including those not traditionally associated with defense technology. An effective and robust integration of commercial and military technologies can reduce costs and improve naval capabilities by keeping pace with the fast moving changes in technologies and operational needs. The RTT project is structured to bring transition deals to closure quickly, and to provide execution year funding for a rapid start, bridging the gap until the program of record can fund the completion of the technology insertion.

Funding reduction from FY 2012 to FY 2013 reflect realignment of funding to higher priority Naval needs.

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

	FY 2011	FY 2012	FY 2013
Title: RAPID TECHNOLOGY TRANSITION (RTT)	18.222	18.724	12.548
Articles:	0	0	0
FY 2011 Accomplishments:			
Continued the following RTT projects:			
- SeaLancet RT-1944/U Multi-Band Network Radio (MBNR)			
- Multiple Wavelength LEP			
- Multi-Level Security Grid			
- Seal Delivery Vehicle (SDV) Diver Thermal Power System			
- eXtensible Common Operational Picture (XCOP)			
- Theater ASW C3 Capability			
- F/A-18 Jet Noise Reduction			
- T64 Prognosis/Diagnosis Based Management (PDBM)			
- Integrated Laser Designator/Rangefinder for the M1A1 Tank			
- Continuous Active Sonar			
- Integration of WiMAX (802.16) Analysis and Planning Capability into the Systems Planning, Engineering and Evaluation Device (SPEED) POR			
- LSRS Data Insertion into DCGS-N			
- Compact Low Frequency Active Off-Board Acoustic Source Expendable (COBASE)			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0203761N: <i>Rapid Technology Transition (RTT)</i>	PROJECT 3126: <i>Rapid Technology Transition (RTT)</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<ul style="list-style-type: none"> - Sonar Automation - Framework for Context Driven Speech Recognition and Processing (FCDSRP) - Spinel Submarine Periscope Headwindow - IRIS SHARK - Paragon - Information Operations Frequency Enhancement - Integrated Variable Message Format (VMF) in the E-2 Hawkeye. <p>Completed/Transitioned the following RTT projects:</p> <ul style="list-style-type: none"> - Physical Screening Protection - Expedient MSR - Common Radio Room - P-3 Air Crew Tactical Team Trainer (PACT-3) - Afloat Non-classified Network - Small Footprint Architecture - Extensible Link <p>Initiate the following RTT projects:</p> <ul style="list-style-type: none"> - Secure Communications Controller - Light Weight Demolition Device - Multiple Weapon Simultaneous Reprogramming of JSOW-C and JSOW-C-1 - VVoSIP and Call Management for Afloat Networks - Unit-Level ISR&T for DCGS-N - Tactical Transfer Cross-Domain Solution Device - Calibration and Certification of MAC Sensors for Intelligence Data Collection - High Gain Broadband (Graywing) Shipboard IO Antenna - Expeditionary Power Management and Distribution (EPMD) <p>FY 2012 Plans:</p> <ul style="list-style-type: none"> - Continued efforts from FY 2011 unless otherwise noted as complete. - Initiate 6-11 new RTT projects to improve naval warfighter capabilities. <p>FY 2013 Plans:</p> <ul style="list-style-type: none"> - Continue efforts from FY 2012. - Initiate 3-5 new RTT projects to improve naval warfighter capabilities. 				
Accomplishments/Planned Programs Subtotals		18.222	18.724	12.548

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0203761N: <i>Rapid Technology Transition (RTT)</i>	PROJECT 3126: <i>Rapid Technology Transition (RTT)</i>

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

N/A

D. Acquisition Strategy

Utilize existing authorities on a case-specific basis to exploit rapid technology transition opportunities.

E. Performance Metrics

The RTT program will initiate new project each year that provide for new, innovative, and potentially disruptive technology being inserted into DON acquisition programs. The RTT deals will have a greater than 80% success rate of insertion and fielding of technology into DON warfighting systems.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0203761N: <i>Rapid Technology Transition (RTT)</i>	PROJECT 3126: <i>Rapid Technology Transition (RTT)</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
COBASE	C/CPFF	SAIC:Subs: Alturdyne & USSI San Diego	2.000	-		-		-		-	0.000	2.000	
Integrated Variable Message Format (VMF) in the E-2 Hawkeye	C/CPFF	Wyle Laboratories, Inc:NAWCAD Patuxent River, MD	2.000	-		-		-		-	0.000	2.000	
Integrated Laser Designator/ Rangefinder for the M1A1 Tank	C/FFP	Night Vision and Electronics Sensors Directorate/N:10221 Burbek Road, Ft Belvoir, VA 22060	1.850	-		-		-		-	0.000	1.850	
Continuous Active Sonar	C/CPFF	Alion Science:240 Oral School Road, Mystic, CT	2.000	-		-		-		-	0.000	2.000	
Integration of WiMAX (802.16d/e) Analysis and Planning Capabilities in SPEED	C/CPFF	NG Defense Space and Mission:San Diego, CA	1.420	-		-		-		-	0.000	1.420	
LSRS Data Insertion into DCGS-N	C/CPFF	BAE Systems/Integrity Applications/Space Dynamics:CA/UT	2.000	-		-		-		-	0.000	2.000	
Sonar Automation	C/CPFF	JHU/APL; UT VRL:Laurel, MD; Austin, TX	2.000	-		-		-		-	0.000	2.000	
Framework for Context Driven Speech Recognition and Processing (FCDSRP)	MIPR	NAWCTSD:Orlando, FL	0.730	-		-		-		-	0.000	0.730	
Spinel Submarine Periscope Headwindow	C/CPFF	Global Strategies Group:Crofton, MD	0.950	-		-		-		-	0.000	0.950	
IRIS SHARK	Various	NTTI/NSWC/SAIC/ PMAT/NGC/SDL/ PMS-495/SDL Logan:CA/FL/DC/VA/ UT	1.960	-		-		-		-	0.000	1.960	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0203761N: <i>Rapid Technology Transition (RTT)</i>	PROJECT 3126: <i>Rapid Technology Transition (RTT)</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Paragon - Information Operations Frequency Enhancement	C/CPFF	Argon ST:Fairfax VA	2.000	-		-		-		-	0.000	2.000	
T64 Prognosis/Diagnosis Based Management	C/IDIQ	AIR 4.4:NAVAIR	1.500	0.300	Oct 2011	-		-		-	0.000	1.800	
Secure Communications Controller	Various	Various:Varous	-	1.246	Dec 2011	0.624	Oct 2012	-		0.624	0.000	1.870	
Light Weight Demolition Device	C/CPFF	Duke Pro, Inc.:Asheville, NC	0.500	-		-		-		-	0.000	0.500	
Multiple Weapon Simultaneous Reprogramming of JSOW-C and JSOW-C-1	C/CPFF	RMS:Tucson, AZ	0.350	1.050	Oct 2011	-		-		-	0.000	1.400	
VVoSIP and Call Management for Afloat Networks	C/CPFF	XFEDS Inc; SSC LANT; Effecture; and SSC PAC:san Diego, CA; Charleston, SC; and Portsmouth, VA	1.375	0.625	Oct 2011	-		-		-	0.000	2.000	
Unit-Level ISR&T for DCGS-N	C/CPFF	NMSO/BAE Systems:San Diego, CA	1.200	0.300	Oct 2011	-		-		-	0.000	1.500	
Tactical Transfer Cross-Domain Solution Device	SS/CR	Penn State Applied Research/NRL:PA/DC	1.400	0.600	Oct 2011	-		-		-	0.000	2.000	
Calibration and Certification of MAC Sensors for Intelligence Data Collection	C/CPFF	ENSCO, Inc./Lockheed Martin/NAWC/ENSCO, Inc.:NY/VA/MD	0.952	0.606	Oct 2011	-		-		-	0.000	1.558	
High Gain Broadband (Graywing) Shipboard IO Antenna	WR	SSC - Pacific Code 56380:San Diego, CA	1.000	0.900	Oct 2011	-		-		-	0.000	1.900	
Expeditionary Power Management and Distribution (EPMD)	Various	Various:Various	0.600	0.600	Oct 2011	-		-		-	0.000	1.200	
Afloat Naval Tactical Chat	Various	Various:Various	0.500	1.200	Nov 2011	-		-		-	0.000	1.700	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0203761N: <i>Rapid Technology Transition (RTT)</i>	PROJECT 3126: <i>Rapid Technology Transition (RTT)</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Multistatic Active Coherent (MAC) Operation Interface	C/CPFF	ENSCO, Inc.; Lockheed Martin:Endicott, NY: Manassa	0.850	1.150	Oct 2011	-		-		-	0.000	2.000		
Future Technology Insertion Opportunities	Various	Various:Various	-	7.094	Dec 2011	8.724	Dec 2012	-		8.724	0.000	15.818		
Subtotal			29.137	15.671		9.348		-		9.348	0.000	54.156		

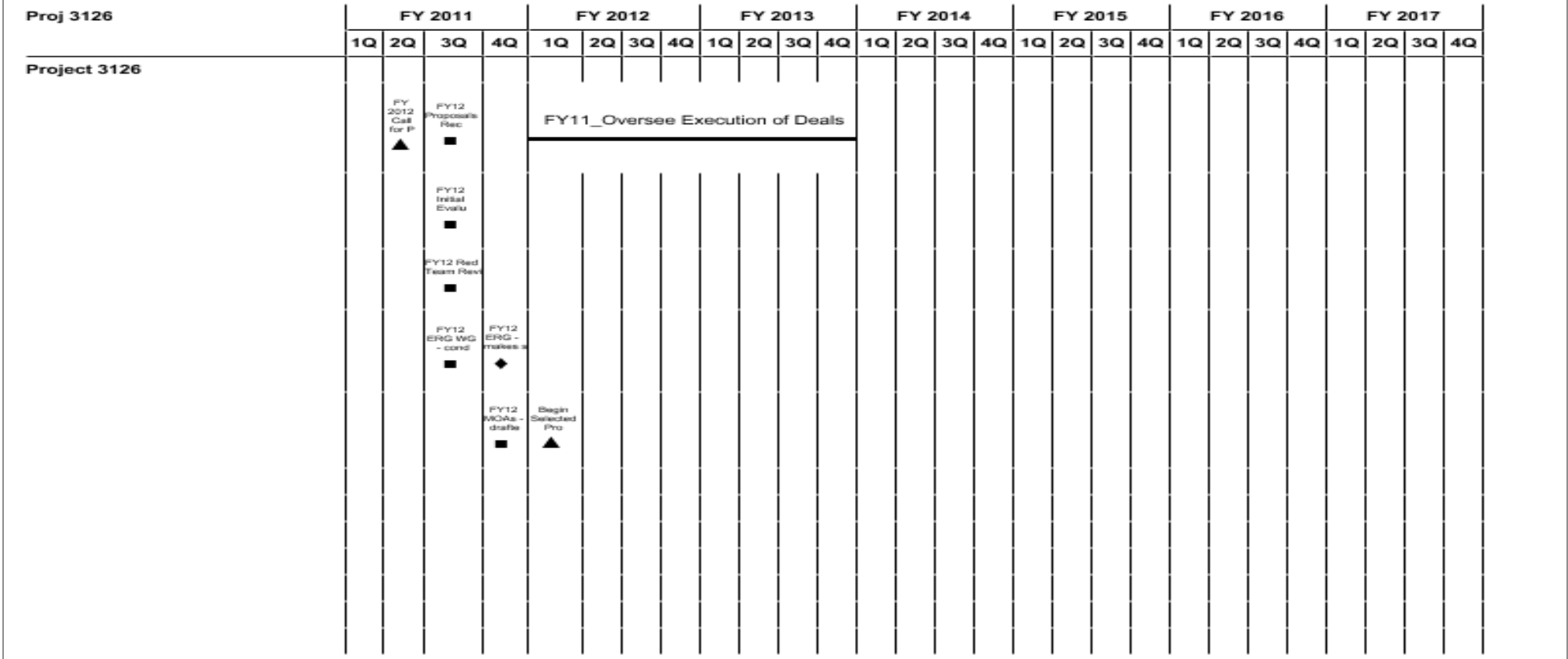
Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Services	C/CPFF	RESEARCH ANALYSIS & ENGINEERING, INC:ARLINGTON, VA	6.102	3.020	Oct 2011	3.200	Oct 2012	-		3.200	Continuing	Continuing	Continuing	
Misc Services	Various	Various:Various	1.178	0.033	Oct 2011	-		-		-	Continuing	Continuing	Continuing	
Subtotal			7.280	3.053		3.200		-		3.200				

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total		Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		36.417	18.724		12.548		-		12.548			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0203761N: <i>Rapid Technology Transition (RTT)</i>
PROJECT 3126: <i>Rapid Technology Transition (RTT)</i>	



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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0203761N: <i>Rapid Technology Transition (RTT)</i>	PROJECT 3126: <i>Rapid Technology Transition (RTT)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 3126				
Project 3126: Oversee Execution of Projects	1	2012	4	2013
Project 3126: FY12 Call for Proposals	2	2011	2	2011
Project 3126: FY12 Proposals Recieved	3	2011	3	2011
Project 3126: FY12 Initial Evaluation	3	2011	3	2011
Project 3126: FY12 Red Team Reviews	3	2011	3	2011
Project 3126: FY12 ERG WG - conducts final reviews and ranking	3	2011	3	2011
Project 3126: FY12 ERG - makes selection for upcoming FY	4	2011	4	2011
Project 3126: FY12 MOAs - drafted, Staffed and approved	4	2011	4	2011
Project 3126: Begin Selected Fy12 Projects	1	2012	1	2012
Project 3126: FY13 Call for Proposals	2	2012	2	2012
Project 3126: FY13 Proposals Recieved	3	2012	3	2012
Project 3126: FY13 Initial Evaluation	3	2012	3	2012
Project 3126: FY13 Red Team Reviews	3	2012	3	2012
Project 3126: FY13 ERG WG - conducts final reviews and ranking	3	2012	3	2012
Project 3126: FY13 ERG - makes selection for upcoming FY	4	2012	4	2012
Project 3126: FY13 MOAs - drafted, Staffed and approved	4	2012	4	2012
Project 3126: Begin Selected FY 13 Projects	1	2013	1	2013

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0203761N: <i>Rapid Technology Transition (RTT)</i>				PROJECT 3173: <i>Technology Insertion Program for Savings (TIPS)</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
3173: <i>Technology Insertion Program for Savings (TIPS)</i>	7.983	8.038	12.772	-	12.772	13.563	14.718	17.681	18.714	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 Technology Insertion Program for Savings (TIPS) is to increase the rate that new cutting edge technologies are inserted into DON acquisition programs in order to significantly reduce operations and maintenance support costs. The program is structured to rapidly transition applicable commercial off-the-shelf solutions and late-stage development technologies from any source to meet an immediate need. TIPS provides execution year funding for a rapid start, bridging the gap until the program of record can fund the completion of the technology insertion.

Funding increase from FY 2012 to FY 2013 reflect emphasis on increasing operations and support cost savings projects.

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

	FY 2011	FY 2012	FY 2013
Title: TECHNOLOGY INSERTION PROGRAM FOR SAVINGS (TIPS)	7.983	8.038	12.772
Articles:	0	0	0
FY 2011 Accomplishments:			
Continued the following FY 2010 TIPS projects:			
- Two Sided Camouflage Netting System;			
- Lithium Battery Casualty Mitigation System (LBMCS)			
- Condition Based Maintenance - Enterprise Service Bus (CBM-ESB)			
- Intrinsically Safe Remote Tank Coatings Assessment Tool			
- Improved Detection Leveraging IWS-5 APB Software; Advanced Prognostics for Steam Catapults Water Brake Monitoring			
- Lightweight Affordable Low Maintenance Watertight Doors.			
Completed the following TIPS project:			
- Disruptive MEM Sensors for Monitoring Aircraft Drive Lines			
Initiated the following TIPS projects:			
- Tactical Environment & Role-player Station (TERS)			
- Naval Advanced Amorphous Coating (NAAC) for High Wear Decks			
- H-1 Combining Gearbox Chaffing Repair via Low Pressure Cold Spray			
- ZnBr Flow Battery Energy Storage System			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0203761N: <i>Rapid Technology Transition (RTT)</i>	PROJECT 3173: <i>Technology Insertion Program for Savings (TIPS)</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<ul style="list-style-type: none"> - Transportation Exploitation Tool (TET) <p><i>FY 2012 Plans:</i></p> <ul style="list-style-type: none"> - Continued all FY 2011 TIPS projects: - Initiate 4-6 new TIPS projects to improve naval warfighter capabilities. <p><i>FY 2013 Plans:</i></p> <ul style="list-style-type: none"> - Continued all FY 2012 TIPS projects. - Initiate 6-8 new TIPS projects to improve naval warfighter capabilities. 				
Accomplishments/Planned Programs Subtotals		7.983	8.038	12.772
C. Other Program Funding Summary (\$ in Millions)				
N/A				
D. Acquisition Strategy				
Utilize existing authorities on a case-specific basis to exploit rapid technology transition opportunities.				
E. Performance Metrics				
The TIPS program will initiate new projects each year that provide for new, innovative, and potentially disruptive technology being inserted into DON acquisition programs. The TIPS projects will have a greater than 80% success rate of insertion and fielding of technology into DON warfighting systems and/or operations and support cost efforts.				

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0203761N: <i>Rapid Technology Transition (RTT)</i>	PROJECT 3173: <i>Technology Insertion Program for Savings (TIPS)</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Two-Sided Multi-Spectral Camo Netting System	Various	Various:MI/NC/MD/NM/VA	1.500	-		-		-		-	0.000	1.500	
Condition Based Maintenance Service Bus	C/IDIQ	Delphinus/General Dynamics:Eddystone/Philadelphia, PA	2.000	-		-		-		-	0.000	2.000	
Intrinsically Safe Remote Tank Coating Assessment Tool	C/CPFF	EXCET/INUKTUN, IVC,NRL, Nainamo:BC/NJ/NRL	1.900	-		-		-		-	0.000	1.900	
Improved Detections Leveraging IWS-5 APB Software	Various	Lockheed Martin/JHU/APL/SSC Pacific:CA/MD/VA	2.000	-		-		-		-	0.000	2.000	
Light Weight Affordable Low Maintenance Watertight Door	C/CPFF	NSWC/ARL PSU:PA/PSU	1.992	-		-		-		-	0.000	1.992	
Lithium Battery Casualty Mitigation System (LBMCS)	C/CPFF	Hughes Associates/Havlovick Engineering Services:Baltimore, MD/Falls, ID	1.975	-		-		-		-	0.000	1.975	
Tactical Environment & Role-player Station (TERS)	C/BPA	NAWCTSD:Orlando, FL	0.900	0.700	Oct 2011	-		-		-	0.000	1.600	
Naval Advanced Amorphous Coating (NAAC) for High Wear Decks	MIPR	EXCET/NRL:NRL	0.500	0.150	Oct 2011	-		-		-	0.000	0.650	
H-1 Combining Gearbox Chaffing Repair via Low Pressure Cold Spray	Various	Various:Various	1.100	0.700	Oct 2011	-		-		-	0.000	1.800	
ZnBr Flow Battery Energy Storage System	MIPR	NAVFAC ESC:Port Hueneme	1.664	0.308	Oct 2011	-		-		-	0.000	1.972	
Transportation Exploitation Tool (TET)	C/CPFF	Alion Science and Technology:VA	0.800	1.200	Oct 2011	-		-		-	0.000	2.000	
Future Technology Insertion Opportunities	Various	Various:Various	-	4.630	Dec 2011	12.417	Dec 2012	-		12.417	0.000	17.047	
Subtotal			16.331	7.688		12.417		-		12.417	0.000	36.436	

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0203761N: <i>Rapid Technology Transition (RTT)</i>	PROJECT 3173: <i>Technology Insertion Program for Savings (TIPS)</i>

	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017					
	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 3173																														
Project 3173: Oversee Execution of Projects																														
Project 3173: FY12 Call for Proposals																														
Project 3173: FY12 Proposals Recieved																														
Project 3173: FY12 Initial Evaluation																														
Project 3173: FY12 Red Team Reviews																														
Project 3173: FY12 ERG WG conducts final reviews and ranking																														
Project 3173: FY12 ERG makes selection for upcoming FY																														
Project 3173: FY12 MOAs drafted, Staffed and approved																														
Project 3173: Begin Selected FY 12 Projects																														
Project 3173: FY13 Call for Proposals																														
Project 3173: FY13 Proposals Recieved																														
Project 3173: FY13 Initial Evaluation																														
Project 3173: FY13 Red Team Reviews																														
Project 3173: FY13 ERG WG conducts final reviews and ranking																														
Project 3173: FY13 ERG makes selection for upcoming FY																														
Project 3173: FY13 MOAs drafted, Staffed and approved																														
Project 3173: Begin Selected FY 13 Projects																														

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0203761N: <i>Rapid Technology Transition (RTT)</i>	PROJECT 3173: <i>Technology Insertion Program for Savings (TIPS)</i>
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 3173				
Project 3173: Oversee Execution of Projects	1	2012	4	2013
Project 3173: FY12 Call for Proposals	2	2011	2	2011
Project 3173: FY12 Proposals Recieved	3	2011	3	2011
Project 3173: FY12 Initial Evaluation	3	2011	3	2011
Project 3173: FY12 Red Team Reviews	3	2011	3	2011
Project 3173: FY12 ERG WG conducts final reviews and ranking	3	2011	3	2011
Project 3173: FY12 ERG makes selection for upcoming FY	4	2011	4	2011
Project 3173: FY12 MOAs drafted, Staffed and approved	4	2011	4	2011
Project 3173: Begin Selected FY 12 Projects	1	2012	1	2012
Project 3173: FY13 Call for Proposals	2	2012	2	2012
Project 3173: FY13 Proposals Recieved	3	2012	3	2012
Project 3173: FY13 Initial Evaluation	3	2012	3	2012
Project 3173: FY13 Red Team Reviews	3	2011	3	2011
Project 3173: FY13 ERG WG conducts final reviews and ranking	3	2012	3	2012
Project 3173: FY13 ERG makes selection for upcoming FY	4	2012	4	2012
Project 3173: FY13 MOAs drafted, Staffed and approved	4	2012	4	2012
Project 3173: Begin Selected FY 13 Projects	1	2013	1	2013

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0203761N: <i>Rapid Technology Transition (RTT)</i>				PROJECT 3174: <i>Rapid Development and Deployment (RDD)</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
3174: <i>Rapid Development and Deployment (RDD)</i>	7.743	3.243	0.246	-	0.246	0.248	0.241	0.239	0.238	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Rapid Development and Deployment (RDD) provides an environment and process for rapid development and fielding of prototype solutions to meet urgent operational needs. The RDD process applies when existing DON processes cannot meet urgent operational needs. Overseas Contingency Operations (OCO) have generated rapidly evolving military needs that require responsive materiel solutions. RDD is a fast track process for application, by exception, to Navy and USMC capability needs and materiel solutions that meet the following criteria: (1) Need identified during active or incipient combat or contingency operation, or (2) Need derived from combat survivability of the warfighter or impacts the success of the mission. RDD initiates projects to deliver prototype solutions that are not readily available off-the-shelf and that can be developed, integrated with other components and systems (as necessary), tested, and fielded within 270 days of need approval. RDD provides startup funds to initiate projects that meet the above criteria while other funding is made available within the year of execution. Rapid Development and Deployment (RDD) provides an environment and process for rapid development and fielding of prototype solutions to meet urgent operational needs.

FY 2012 to FY 2013 funding reduction is due to realignment of funds for higher priority Naval needs.

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

	FY 2011	FY 2012	FY 2013
Title: RAPID DEVELOPMENT AND DEPLOYMENT (RDD)	7.743	3.243	0.246
Articles:	0	0	0
FY 2011 Accomplishments:			
- Continued United States Marine Corps Fire Suppression project			
- Continued new RDD projects as needed to support OCO urgent needs			
- Initiated approximately 3-4 new RDD projects in support of OCO.			
FY 2012 Plans:			
- Continued all FY 2011 efforts.			
- Initiated approximately 3-4 new RDD projects in support of OCO.			
FY 2013 Plans:			
- Continue all FY 2012 efforts.			
- Initiate approximately 1-2 new RDD projects in support of OCO.			
Accomplishments/Planned Programs Subtotals	7.743	3.243	0.246

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0203761N: <i>Rapid Technology Transition (RTT)</i>	PROJECT 3174: <i>Rapid Development and Deployment (RDD)</i>

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

D. Acquisition Strategy
For RDD requirements that meet the selection criteria, the virtual Rapid Development and Deployment Office (RDDO) is used to initiate projects. The RDDO is a virtual organization operating across Naval Laboratories and Warfare Centers, with interfaces and/or contractual agreements with other Military Services, Industry, Academia and the National Laboratory community. The RDDO will bring together, on demand, multi-disciplinary teams to develop and deliver rapid, innovative solutions. The RDDO will maintain visibility of available and emerging technologies from all sources that may serve as enablers to the success of RDD initiatives. The RDDO will review Urgent Combat Needs, identify and evaluate alternative solutions and provide recommendations. The RDDO will include a rapid acquisition channel, consistent with all applicable procurement regulations, for access to industry products and services as needed. For approved projects, the RDDO will select appropriate technologies, and develop, integrate, test, and deliver fieldable prototypes with the essential logistics for use by the warfighter. End users will be involved throughout the process as part of the virtual team.

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 - 360 days.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0203761N: <i>Rapid Technology Transition (RTT)</i>	PROJECT 3174: <i>Rapid Development and Deployment (RDD)</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Loud Hailer	SS/CPAF	ACI Tech, NAWCAD:Philadelphia, Pax River	4.761	-		-		-		-	0.300	5.061	
Ship Disable	C/BPA	NSWC:Dahlgren, VA	2.883	-		-		-		-	0.000	2.883	
Robot Repeater	Various	Various:Various	1.500	-		-		-		-	0.000	1.500	
MV-22 Traffic Collision Avoidance System (TCAS)	C/CPFF	NAVAIR:Patuxent River, MD	2.950	0.600	Oct 2011	-		-		-	0.000	3.550	
TBD	Various	Various:Various	-	2.393	Mar 2012	-		-		-	Continuing	Continuing	Continuing
Subtotal			12.094	2.993		-		-		-			

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Rapid Development and Deployment Office	WR	Various:Various	4.669	0.250	Oct 2011	0.246	Oct 2012	-		0.246	0.000	5.165	
Subtotal			4.669	0.250		0.246		-		0.246	0.000	5.165	

			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			16.763	3.243		0.246		-		0.246			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0203761N: <i>Rapid Technology Transition (RTT)</i>	PROJECT 3174: <i>Rapid Development and Deployment (RDD)</i>
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Proj 3174	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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
Project 3174				Ship Disable ▼																								
	Robot Repeater																											
	MV-22 TCAS																											
					FY 12 RDD Efforts																							

2013OSD - 0203761N - 3174

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0203761N: <i>Rapid Technology Transition (RTT)</i>	PROJECT 3174: <i>Rapid Development and Deployment (RDD)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 3174				
Project 3174: Deliver Ship Disable	4	2011	4	2011
Project 3174: Execute Robot Repeater	1	2011	4	2011
Project 3174: Execute MV-22 TCAS	3	2011	4	2012
Project 3174: Execute FY 12 RDD Efforts	1	2012	3	2012

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY			R-1 ITEM NOMENCLATURE								
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>			PE 0204136N: <i>F/A-18 Squadrons</i>								
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	143.560	147.091	188.299	-	188.299	148.861	140.461	118.386	39.213	Continuing	Continuing
1662: <i>F/A-18 Improvement</i>	130.558	94.977	124.223	-	124.223	112.654	84.646	59.587	39.213	Continuing	Continuing
2065: <i>F/A-18 Radar Upgrade</i>	13.002	52.114	64.076	-	64.076	36.207	55.815	58.799	-	0.000	280.013

A. Mission Description and Budget Item Justification

The F/A-18 is required to perform multiple missions. Capabilities of the F/A-18 weapon system and ancillary equipment can be upgraded to accommodate and incorporate new or enhanced weapons as well as advances in technology to respond effectively to emerging future threats. Continued F/A-18 E/F and EA-18G "Flight Plan" spiral capability development is critical to the baseline of the Super Hornet next generation mission system capability and maintaining tactical relevance in support of Navy Aviation Plan 2030. Development continues for a platform solution to threat Advanced Electronic Attack and Counter-Electronic Attack (CEA). F/A-18 solutions to CEA include upgrades to existing sensors such as F/A-18 Radar Upgrade, Infrared Search and Track Block I, and development of a fused picture between these sensors, such as Multi-Sensor Integration Phase III. Additionally, continued advanced development engineering for improvements in reliability and maintainability are required to ensure maximum benefit is achieved through reduced cost of ownership and to provide enhanced availability.

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	148.438	151.030	121.201	-	121.201
Current President's Budget	143.560	147.091	188.299	-	188.299
Total Adjustments	-4.878	-3.939	67.098	-	67.098
• Congressional General Reductions	-	-0.070			
• Congressional Directed Reductions	-	-5.869			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-1.514	-			
• SBIR/STTR Transfer	-2.580	-			
• Program Adjustments	-	2.000	67.041	-	67.041
• Rate/Misc Adjustments	-	-	0.057	-	0.057
• Congressional General Reductions Adjustments	-0.784	-	-	-	-

Change Summary Explanation

Technical:
1662: Not Applicable

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	PE 0204136N: <i>F/A-18 Squadrons</i>

2065: Not Applicable

Schedule:

1662: Automatic Ground Collision Avoidance System/Automated Terrain Avoidance and Warning System will be a new start development effort in FY 2012. Multi-Sensor Integration Phase III focuses on software and sensor upgrades and Counter-Electronic Attack (CEA) sensor integration with funded efforts beginning in FY2013.

2065: Schedule adjustments to this program are a result of production enhancement related to the Anti-Tamper configuration of APG-79 Radar System. The monopulse study is an effort to determine the root cause and resolution alternatives for APG-79 tracking errors. Instrumentation development is an effort to redesign/replace obsolete APG-79 test instrumentation. CEA #1 is a development, integration, and test effort to correct APG-79 deficiencies in countering Electronic Attack threats. Target Location Error (TLE) development is an effort to determine and characterize APG-73 TLEs. Aircraft Combat Maneuvering mode development is an effort that will determine the root causes and potential solutions for APG-79 short-range tracking issues.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>	PROJECT 1662: <i>F/A-18 Improvement</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
1662: <i>F/A-18 Improvement</i>	130.558	94.977	124.223	-	124.223	112.654	84.646	59.587	39.213	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

F/A-18 Improvement (1662): The F/A-18 is a multi-mission strike fighter aircraft that is used in Air-to-Air strike, surveillance, reconnaissance and tanking roles through selected use of external equipment (fuel tanks, tactical and reconnaissance pods, and various ordnance launching racks). Additional capabilities are required for interoperability in a network-centric tactical environment. In order to respond effectively to emerging future threats, F/A-18 aircraft capabilities are being upgraded to incorporate new/enhanced weapons systems and avionics including Dual Mode Weapons, a Counter-Electronic Attack, Infra-red Search and Track integrated with the Active Electronically Scanned Array Radar to provide Narrow Band High Gain Electronic Attack, Distributed Targeting precision strike capability through a Distributed Targeting System, and Sensor Integration through Multi-Sensor Integration (MSI) Phase I/II/III capability. Continued advanced development engineering and analysis of hardware/software is required to successfully optimize fleet F/A-18 weapon systems for interoperability in a network centric tactical environment, to include: enhanced software capabilities, potential new hardware development, enhanced existing hardware, and enhanced network centric capabilities. Additionally, continued effort is needed to perform technical evaluations, modeling and simulations, investigative flight testing, and enhanced software modifications based on reported fleet deficiencies. Funding has been added starting in FY 2012 for the Automatic Ground Collision Avoidance System/Automated Terrain Avoidance and Warning System which will integrate currently implemented manual methodologies to provide not only aural and visual cues/advisories but also automatic initiation of aircraft recovery and subsequent return of control to the pilot following recovery. Currently employed Controlled Flight into Terrain Avoidance System technologies within the Department of Defense Fighter/Attack aircraft communities are advisory only (aural and visual cues/warnings to aircrew), thus requiring manually implemented corrective measures by the aircrew to preclude incident (greater lag time to initiation of recovery and not feasible in the event of pilot G-induced loss of consciousness). This funding line continues F/A-18E/F "Flight Plan" spiral capability development, which includes Sensor Integration - MSI Phase II capability. This budget also continues funding for F/A-18A-F Test Wing Maintenance support and funding development efforts needed for integration of air launched laser guided rockets on F/A-18 A+/C/D.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Distributed Targeting System	38.601	5.698	1.916	-	1.916
Articles:	0	0	0		0
Description: Funds are supporting development of a distributed targeting precision strike capability through a hardware and software solution. Hardware - Distributed Targeting Processor (DTP), Mass Storage Unit (MSU), and Mission Planning Transit Case. Software - DTP/MSU Operational Flight Program (OFP), Mission Computer OFP, and Mission Planning OFP.					
FY 2011 Accomplishments:					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>	PROJECT 1662: <i>F/A-18 Improvement</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
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Entered Developmental Testing Flight testing, entered Milestone (MS) C, and awarded Engineering Change Proposal for Low-Rate Initial Production.					
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<p>FY 2012 Plans: Continue Integrated Test and Evaluation and begin Initial Operational Test and Evaluation (IOT&E). Complete Operational Test, conduct Physical Configuration Audit and Full Rate Production review (FRP).</p> <p>FY 2013 Base Plans: Complete IOT&E and award FRP contract.</p>					
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<p>Title: Electro-Optical Infra-Red - Infra-red Search and Track (IRST) Phase I</p> <p align="right">Articles:</p>	46.643 0	49.283 0	84.262 0	-	84.262 0
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<p>Description: Technology development and engineering and manufacturing development of an IRST sensor for the F/A-18 E/F.</p>					
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<p>FY 2011 Accomplishments: Achieved MS B 17 June 2011, entered Engineering and Development Phase.</p>					
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<p>FY 2012 Plans: Continue Engineering and Development Phase and complete Critical Design Review and Design Readiness Review.</p>					
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<p>FY 2013 Base Plans: Continue Engineering and Development Phase and start Integration Testing-B1 Flight Test.</p>					
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<p>Title: Sensor Integration - Single Ship Geolocation (SSG) and Specific Emitter Identification (SEI), High Gain Electronic Attack/High Gain Electronic Support Measures, Integrated Defensive Countermeasures</p> <p align="right">Articles:</p>	14.782 0	11.320 0	2.629 0	-	2.629 0
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<p>Description: In order to respond effectively to emerging future threats, F/A-18 aircraft capabilities are being upgraded to incorporate new/enhanced weapons systems and avionics. This funding line includes F/A-18E/F "Flight Plan" spiral capability development, SSG and SEI.</p>					
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<p>FY 2011 Accomplishments: Continue software algorithm development to enhance target identification and location (SSG and SEI).</p>					
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<p>FY 2012 Plans:</p>					
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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy				DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>		PROJECT 1662: <i>F/A-18 Improvement</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					
Continue software algorithm development to enhance target identification and location Sensor Integration - Single Ship Geolocation(SSG) and Specific Emitter Identification (SEI).					
FY 2013 Base Plans: Continue software algorithm development to enhance target identification and location - SSG and SEI.					
Title: Sensor Integration - MSI Phase I					
Articles:					
Description: In order to respond effectively to emerging future threats, F/A-18 aircraft capabilities are being upgraded to incorporate new/enhanced weapons systems and avionics including, Multi-Sensor Integration Phase I capability. Advanced development engineering and analysis of hardware/software is required to optimize fleet F/A-18 weapon systems for interoperability in a network centric tactical environment.					
FY 2011 Accomplishments: Continue software algorithm development to correlate multiple ground and surface tracks from on-ship to off-ship sensor sources and to begin integration with the Common Tactical Picture and Blue Force Track information.					
Title: Sensor Integration - Air to Air (A/A), Air to Ground and Maritime Multi-Sensor Integration (MSI) Phase II					
Articles:					
Description: Funding will be used to expand track and correlation support from emitting targets and tracks to improve lethality against stationary or moving targets. The H10E effort is currently in the requirements definition/ allocation phase, with expected fleet introduction in FY 2014.					
FY 2011 Accomplishments: System change review board held to formalize MSI Phase II into System Configuration Set H10.					
FY 2012 Plans: Requirements decomposition, functional allocation of subsystem requirements. System functional review and critical design review will be held.					
FY 2013 Base Plans: Integration and testing will be conducted.					
Title: Sensor Integration - Counter Electronic Attack (CEA) /MSI Phase III					
Articles:					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy			DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>		PROJECT 1662: <i>F/A-18 Improvement</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					
Description: MSI Phase III utilizes previous MSI upgrades and combines them in H12 System Configuration Set with display improvements to enhance A/A & CEA sensor integration. MSI Phase III capability focuses are: Display firmware upgrade (allows existing processors to be fully utilized) coupled with display symbology/Crew Vehicle Interface improvements, and A/A Mission Tactical Picture improvements. MSI Phase III capability is common to the F/A-18E/F and EA-18G.					
FY 2013 Base Plans: Requirements decomposition, functional allocation of subsystem requirements. System Functional Review/Critical Design Review to be held.					
Title: Automatic Ground Collision Avoidance System (AGCAS)/Automated Terrain Avoidance and Warning System (ATAWS)					
Articles:					
Description: AGCAS/ATAWS will preserve force structure by reducing attrition of pilots and aircraft that result from Controlled Flight into Terrain (CFIT). CFIT occurs at greater rates on fighter attack aircraft and is a leading cause of loss of life and loss of combat capability within the DoD aviation community. At full implementation, AGCAS/ATAWS will integrate currently implemented manual methodologies to provide not only aural and visual cues/advisories, but also automatic initiation of aircraft recovery and subsequent return of control to the pilot following recovery.					
FY 2012 Plans: Conduct study and analysis and develop functional requirements.					
FY 2013 Base Plans: Continue to develop functional requirements document and develop related software.					
Title: Test Wing Maintenance Conversion					
Articles:					
Description: Funding supports maintenance of aircraft at NAVAIR Test Wing used to support Program Office objectives.					
FY 2011 Accomplishments:					
	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
	-	5.707 0	11.402 0	-	11.402 0
	10.344 0	9.042 0	10.483 0	-	10.483 0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>	PROJECT 1662: <i>F/A-18 Improvement</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Perform aircraft maintenance on Test Wing Aircraft. FY 2012 Plans: Perform aircraft maintenance on Test Wing Aircraft. FY 2013 Base Plans: Perform aircraft maintenance on Test Wing Aircraft.					
Title: Advanced Precision Kill Weapons System II Articles:	-	2.000 0	-	-	-
Description: Development efforts needed for integration of air launched laser guided rockets on F/A-18 A+/C/D at stations 2, 3, 7, and 8. FY 2012 Plans: OCO:Perform and complete developmental testing needed to integrate air launched laser guided rockets on F/A-18 A+/C/D.					
Accomplishments/Planned Programs Subtotals	130.558	94.977	124.223	-	124.223

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

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• APN/0145: <i>F/A-18E/F</i>	2,169.483	2,240.184	2,035.131	0.000	2,035.131	1,140.153	0.000	0.000	0.000	0.000	42,574.873
• APN/0145C: <i>F/A-18EF AP</i>	2.282	63.262	30.296	0.000	30.296	0.000	0.000	0.000	0.000	0.000	1,650.192
• APN/0143: <i>EA-18G</i>	955.262	994.596	1,027.443	0.000	1,027.443	21.970	8.111	0.000	0.000	0.000	8,651.090
• APN/0143C: <i>EA-18G AP</i>	43.866	28.119	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	263.668
• APN/05250: <i>F-18 SERIES MOD</i>	482.020	472.159	647.306	41.243	688.549	966.458	1,246.249	1,495.489	1,495.104	3,817.552	15,119.916
• RDTEN/3063: <i>EA-18G DEVELOPMENT</i>	20.246	17.100	13.009	0.000	13.009	15.311	16.002	16.106	16.393	Continuing	Continuing

D. Acquisition Strategy

The F/A-18 Improvement program consists of extensive spiral development efforts mapped out in the capability-based approach F/A-18 E/F "Flight Plan." These efforts are critical to the baseline of the Super Hornet next generation mission system capability and maintaining tactical relevance in support of Navy Aviation Plan 2030. The major programs within the F/A-18 Improvement project are based on six Weapon System Capabilities: Distributed Targeting Air to Ground (A/G) and Maritime, Distributed Targeting Air to Air (A/A), Net Centric Operations/Battle Space Management, Sensor Integration, A/G and Maritime Attack, and A/A Attack. The major

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	PE 0204136N: <i>F/A-18 Squadrons</i>	1662: <i>F/A-18 Improvement</i>

efforts included in this project are: Dual Mode Weapons integration; an Infra-Red Search and Track; Distributed Targeting capability through a Distributed Targeting System; Multi-Sensor Integration Phase I, Phase II and Phase III capability; continued advanced development and F/A-18E/F Flight Plan engineering and analysis; continued enhanced software capabilities development; and engineering support to perform technical evaluations, modeling and simulations, and investigative flight testing.

- Infra-Red Search and Track (IRST). The IRST Block I program is a Navy program entering the Engineering Manufacturing and Development (EMD) phase at Milestone (MS) B in FY 2011. A Block I system will be developed by the Navy that will meet requirements for a Counter-Electronic Attack capability. This capability will reach Initial Operational Capability (IOC) in FY 2016.
- Distributed Targeting System (DTS). DTS development is provided on a sole source cost plus incentive fee contract for EMD activities to Boeing. The program is a new start ACAT III FY 2009 effort, with a post MS B entry and an IOC in FY 2012. The program is leveraging previous Engineering Change Proposal efforts and is designated for all domestic Super Hornets. Updated acquisition plan is in accordance with Dr. Carter memorandum.
- Sensor Integration. Sensor Integration development is provided on a sole source cost plus fixed fee contract on a Research and Development Basic Ordering Agreement to Raytheon and Boeing.
- Integration of Auto Ground Collision Avoidance System/Automated Terrain Avoidance and Warning System (AGCAS/ATAWS) is envisioned to only require changes to the software (S/W) System Configuration Set (SCS). Studies and analyses are needed to identify the appropriate implementation method.

E. Performance Metrics

The DTS Program will achieve IOC in FY2012. IRST Program achieved MS B on 17 June 2011, scheduled for MS C in 3rd Quarter of FY2014, and IOC in 4th Quarter of FY2016.

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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 Development Electronic Warfare (EW) Sensor	Various	Various:Various	1.813	1.500	Jan 2012	-		-		-	2.405	5.718	
Primary Development EW Sensor	Various	Boeing:St. Louis, MO	6.330	0.750	Apr 2012	-		-		-	0.175	7.255	
Primary Development EW Sensor	WR	NAWCWD:China Lake, CA	1.985	1.500	Dec 2011	-		-		-	0.313	3.798	
Develop Sensor Integration Single Ship Geolocation/ Specific Emitter Identification (SSG/SEI)	WR	NAWCWD:Pt. Mugu, CA	0.659	1.220	Dec 2011	-		-		-	1.443	3.322	
Develop Sensor Integration SSG/SEI	Various	Boeing:St. Louis, MO	4.530	1.161	Mar 2012	1.944	Mar 2013	-		1.944	3.000	10.635	
Develop Sensor Integration SSG/SEI	Various	Various:Various	-	0.486	Dec 2011	0.048	Dec 2012	-		0.048	0.164	0.698	
Software (S/W) Development Integrated Defensive Electronic Countermeasures (IDECM) - High Gain Electronic Support Measures (HGESM)	Various	Boeing:St. Louis, MO	2.396	0.551	Mar 2012	-		-		-	0.203	3.150	
S/W Development IDECM - HGESM	WR	NAWCWD:China Lake, CA	1.912	1.260	Dec 2011	-		-		-	0.244	3.416	
S/W Development IDECM - HGESM	Various	Raytheon:Goleta, CA	2.542	1.421	Jan 2012	-		-		-	3.161	7.124	
Automatic Ground Collision Avoidance System/Automated Terrain Avoidance and Warning System (AGCAS/ATAWS) Systems Engineering	Various	Various:Various	-	0.203	Dec 2011	0.234	Dec 2012	-		0.234	9.400	9.837	
AGCAS/ATAWS Training Development	Various	Various:Various	-	-		-		-		-	2.560	2.560	

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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 Infra-Red Search and Track 2	C/CPIF	Boeing:St. Louis, MO	20.900	37.604	Nov 2011	63.566	Nov 2012	-		63.566	61.195	183.265	183.265
Primary Hardware (H/W) Development Multi-Sensor Integration Phase II	Various	Various:Various	-	1.000	Dec 2011	-		-		-	0.000	1.000	
Develop Sensor Integration Single Ship Geolocation/ Specific Emitter Identification	WR	NAWCWD:China Lake, CA	0.523	-		0.637	Dec 2012	-		0.637	1.443	2.603	
Prior Year cost no longer funded in FYDP	Various	Various:Various	544.265	-		-		-		-	0.000	544.265	
Subtotal			587.855	48.656		66.429		-		66.429	85.706	788.646	

Remarks
 "Primary H/W Development Infra-Red Search and Track (IRST)" (C/CPFF) in FY11 was reduced from 30.650 to 11.250 with the remaining 19.400 put on "Primary H/W Development IRST" C/CPIF. The reason for the change was to show the two different contracting actions now required for the IRST effort.

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 (S/W) Development IRST	WR	NAWCWD:China Lake, CA	-	2.860	Dec 2011	4.170	Dec 2012	-		4.170	1.916	8.946	
S/W Development Integrated Defensive Electronic Countermeasures - High Gain Electronic Support Measures	WR	NAWCWD:China Lake, CA	10.579	0.148	Dec 2011	-		-		-	0.000	10.727	
Development Support IRST	WR	NAWCWD:China Lake, CA	5.222	0.500	Dec 2011	0.421	Dec 2012	-		0.421	7.011	13.154	
Development Support IRST	WR	NAWCAD:Pax River, MD	6.037	1.960	Dec 2011	3.472	Dec 2012	-		3.472	8.662	20.131	
Development Support IRST	WR	NAWCAD:Lakehurst, NJ	0.564	0.800	Dec 2011	0.603	Dec 2012	-		0.603	0.000	1.967	

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Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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	
Development Support IRST	WR	FRC Southeast: Jacksonville, FL	2.056	1.350	Dec 2011	1.694	Dec 2012	-		1.694	3.768	8.868	
Development Support IRST	WR	FRC Southwest: North Island, CA	0.157	0.325	Dec 2011	0.430	Dec 2012	-		0.430	0.137	1.049	
Software (S/W) Development System Configuration Set Distributed Targeting System	Various	Boeing: St. Louis, MO	28.503	0.224	Feb 2012	0.216	Mar 2013	-		0.216	30.545	59.488	59.488
Development Support - Sensor Integration Single Ship Geolocation/Specific Emitter Identification	WR	NAWCWD: China Lake, CA	1.638	0.148	Dec 2011	-		-		-	0.000	1.786	
Development Support - Sensor Integration Multi-Sensor Integration (MSI) Phase II	Various	NAWCWD: China Lake, CA	4.310	-		2.231	Dec 2012	-		2.231	0.000	6.541	
Automatic Ground Collision Avoidance System/Automated Terrain Avoidance and Warning System (AGCAS/ATAWS) Development Support	Various	Various: Various	-	-		-		-		-	12.194	12.194	
AGCAS/ATAWS S/W Development	C/CPFF	Boeing: St. Louis, MO	-	4.995	Jan 2012	7.224	Jan 2013	-		7.224	13.335	25.554	25.554
AGCAS/ATAWS Configuration Management	Various	Various: Various	-	0.037	Dec 2011	0.052	Dec 2012	-		0.052	1.234	1.323	
AGCAS/ATAWS Technical Data	Various	Various: Various	-	-		-		-		-	0.150	0.150	
AGCAS/ATAWS Integrated Logistics Support	Various	Various: Various	-	-		-		-		-	1.809	1.809	
Development Support - Sensor Integration MSI Phase II	WR	FRC Southwest: North Island, CA	-	0.060	Jan 2012	-		-		-	0.000	0.060	

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Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 - Sensor Integration MSI Phase II	WR	PMA205:Pax River, MD	0.774	0.638	Jan 2012	0.638	Jan 2013	-		0.638	0.000	2.050	
Development Support - Sensor Integration Counter-Digital Radio Frequency Memory - MSI Phase III	WR	NAWCWD:China Lake, CA	-	-		6.917	Dec 2012	-		6.917	30.720	37.637	
Development Support - Sensor Integration Counter-Digital Radio Frequency Memory - Multi-Sensor Integration (MSI) Phase III	Various	Boeing:St. Louis, MO	-	-		2.645	Dec 2012	-		2.645	20.480	23.125	
Prior Year costs no longer funded in FYDP	Various	Various:Various	2,919.391	-		-		-		-	0.000	2,919.391	
Subtotal			2,979.231	14.045		30.713		-		30.713	131.961	3,155.950	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 (DT&E) Infra-Red Search and Track (IRST)	WR	NAWCAD:Pax River, MD	3.598	0.700	Dec 2011	4.188	Dec 2012	-		4.188	6.575	15.061	
DT&E IRST	WR	NAWCWD:China Lake, CA	0.959	2.500	Dec 2011	1.344	Dec 2012	-		1.344	29.796	34.599	
Operational Test & Evaluation (OT&E) IRST	WR	OPTEVFOR:VX-9	0.018	1.052	Dec 2011	0.560	Dec 2012	-		0.560	5.372	7.002	
DT&E Distributed Targeting System (DTS) 1	WR	NAWCWD:China Lake, CA	16.221	0.093	Dec 2011	-		-		-	1.808	18.122	
DT&E DTS 2	WR	NAWCWD:China Lake, CA	7.053	0.461	Dec 2011	0.300	Dec 2012	-		0.300	0.045	7.859	
DT&E DTS 2	WR	NAWCAD:Pax River, MD	0.900	0.105	Nov 2011	0.300	Dec 2012	-		0.300	0.000	1.305	

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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 DTS	WR	OPTEVFOR:Norfolk, VA	0.747	0.742	Dec 2011	0.200	Dec 2012	-		0.200	3.000	4.689	
OT&E Sensor Integration - Single Ship Geolocation/ Specific Emitter Identification MSI Phase I	WR	OPTEVFOR:Norfolk, VA	1.057	-		-		-		-	0.032	1.089	
Developmental Test & Evaluation (DT&E) Sensor Integration - Multi-Sensor Integration (MSI) Phase II-3	WR	NAWCAD:Pax River, MD	4.567	-		-		-		-	3.670	8.237	
DT&E Sensor Integration - MSI Phase II-4	WR	FRC Southwest:North Island, CA	-	-		-		-		-	0.390	0.390	
Weapons Integration - Advanced Precision Kill Weapon System II	WR	NAWCAD:Pax River, MD	-	2.000	Mar 2012	-		-		-	0.000	2.000	
DT&E Sensor Integration - MSI Phase II	WR	NAWCWD:China Lake, CA	-	6.648	Feb 2012	-		-		-	0.000	6.648	
DT&E Sensor Integration - MSI Phase II	WR	Various:Various	-	2.005	Jan 2012	-		-		-	0.000	2.005	
DT&E Automatic Ground Collision Avoidance System/ Automated Terrain Avoidance and Warning System (AGCAS/ATAWS)	Various	Various:Various	-	-		-		-		-	11.806	11.806	
Operational Test & Evaluation AGCAS/ATAWS	Various	OPTEVFOR:Norfolk, VA	-	-		-		-		-	6.586	6.586	
Prior Year costs no longer funded in FYDP	Various	Various:Various	80.542	-		-		-		-	0.000	80.542	
Subtotal			115.662	16.306		6.892		-		6.892	69.080	207.940	

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Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 Mgmt Support Distributed Targeting System (DTS)	WR	NAVAIR:Pax River, MD	3.867	0.522	Dec 2011	-		-		-	0.448	4.837	
Government Engineering Support DTS	WR	NAWCAD:Pax River, MD	7.838	0.550	Dec 2011	0.514	Dec 2012	-		0.514	0.050	8.952	
Program Management Support (MISC)	Various	NAWCAD:Pax River, MD	5.532	0.658	Dec 2011	-		-		-	16.843	23.033	
Program Management Support (Seaport-CSS)	C/CPFF	Wyle Lab:Pax River, MD	9.354	-		3.620	Nov 2012	-		3.620	9.629	22.603	22.603
Travel	Various	NAVAIR:Pax River, MD	3.550	1.000	Oct 2011	0.675	Dec 2012	-		0.675	3.200	8.425	
Flight Plan Engineering	Various	NAWCAD:Pax River, MD	4.160	1.075	Dec 2011	1.158	Dec 2012	-		1.158	3.515	9.908	
Flight Plan Engineering	Various	NAWCWD:China Lake, CA	9.340	1.650	Jan 2012	1.810	Jan 2013	-		1.810	8.203	21.003	
Government Engineering Support Multi-Sensor Integration (MSI) Phase II	Various	Various:Various	0.886	1.567	Dec 2011	-		-		-	0.510	2.963	
Test Wing Maintenance Conversion	WR	NAWCAD:Pax River, MD	16.662	4.183	Jan 2012	5.367	Jan 2013	-		5.367	27.407	53.619	
Test Wing Maintenance Conversion	WR	NAWCWD:China Lake, CA	16.662	4.182	Jan 2012	5.368	Jan 2013	-		5.368	27.408	53.620	
Automatic Ground Collision Avoidance System/Automated Terrain Avoidance and Warning System (AGCAS/ATAWS) Contractor Engineering Support	Various	Various:Various	-	0.149	Nov 2011	0.172	Nov 2012	-		0.172	3.069	3.390	
AGCAS/ATAWS Government Engineering Support	Various	Various:Various	-	0.363	Nov 2011	0.350	Nov 2012	-		0.350	3.213	3.926	
AGCAS/ATAWS Program Management Support	Various	Various:Various	-	0.071	Dec 2011	1.155	Dec 2012	-		1.155	2.073	3.299	
Prior Year costs no longer funded in FYDP	Various	Various:Various	23.906	-		-		-		-	0.000	23.906	

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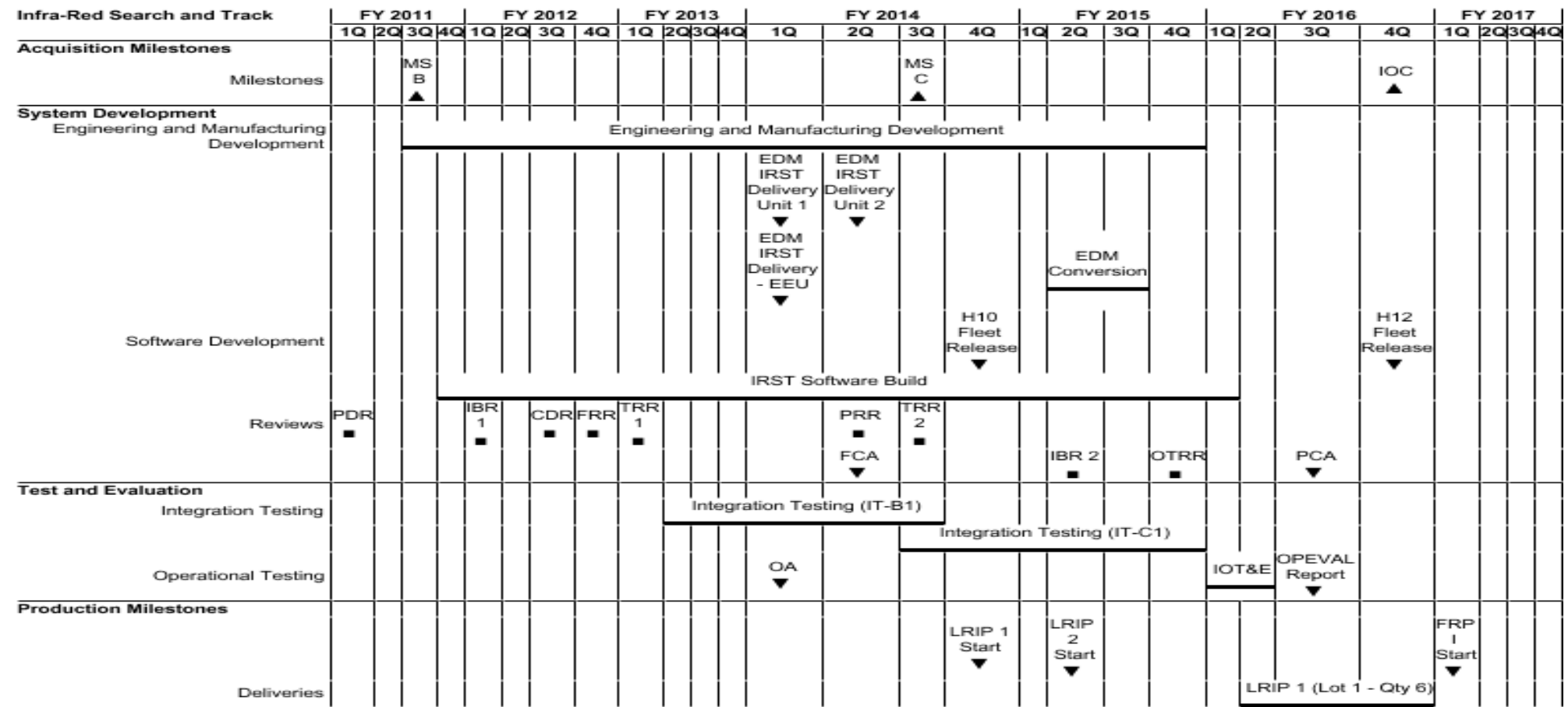
Distributed Targeting System (DTS)	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Acquisition Milestones																												
Milestones		MS-C ▲						IOC ▲																				
System Development																												
Hardware Development																												
Software Development																												
Reviews																												
Test and Evaluation																												
Geo-reg Integration Testing																												
Developmental Testing		DT Flight Testing																										
Operational Testing						OT Flight Testing																						
Production Milestone																												
ECP Level III Maintenance		ECP Level III Maintenance																										
Contract Awards				LRIP-1 ●		LRIP-2 ●			FRP ●																			
Deliveries								LRIP-1 (Lot 1 - Qty 30)		LRIP-2 (Lot 2 - Qty 64)																		

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SSG/SEI, HGESM	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				
	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																													
Software Development	Software Development																												
	Software Integration																												
Reviews					OTRR ■																								
Test and Evaluation																													
			Val/Ver, IT&E		OPEVAL																								
Production Milestones																													
Deliveries									Fleet Release ▼																				

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MSI Phase I	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				
	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																													
Software Development	Software Development MSI																												
	Software Integration MSI																												
Reviews					OTRR ■																								
Test and Evaluation																													
			Validation IT&E MSI		Verification OPEVAL																								
Production Milestones																													
Deliveries									Fleet Release MSI Ph ↓																				

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MSI Phase II	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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 Definition																											
	Design & Development																											
Test and Evaluation																												
Production Milestones																												
	Deliveries																											

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MSI Phase III	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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	Concept Development				Requirements Definition MSI Ph III/H12								Design & Development MSI Ph III/H12															
Test and Evaluation													Integration Testing MSI Ph III/H12				OT MSI Ph III/H12											
Production Milestones																												
Deliveries																												
																									Fleet Release MSI Ph III/H12 ▼			

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Automatic Ground Collision Avoidance System (AGCAS)/Automated Terrain Avoidance and Warning System (ATAWS)	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017												
	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																																					
Hardware Development					SOW Development																																
Software Development					System Performance Specification ▼																																
					H12 Software Development & Delivery																																
					H14 Software Development & Delivery																																
Reviews				IRR ■																																	
SRR ■																																					
CDR ■																																					
TRR ■																																					
Test and Evaluation																																					
TEMP Development																																					
DT																																					
Production Milestones																																					
Deliveries																																					

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>	PROJECT 1662: <i>F/A-18 Improvement</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Distributed Targeting System (DTS)</i>				
Acquisition Milestones: Milestones: Milestone C	2	2011	2	2011
Acquisition Milestones: Milestones: Initial Operational Capability	4	2012	4	2012
Test and Evaluation: Geo-reg Integration Testing	1	2011	2	2011
Test and Evaluation: Developmental Testing: DT Flight Testing	1	2011	1	2012
Test and Evaluation: Operational Testing: OT Flight Testing	2	2012	4	2012
Production Milestone: Engineering Change Proposal (ECP) Level III Maintenance	1	2011	4	2011
Production Milestone: Contract Awards: Low Rate Initial Production (LRIP 1) RDTEN	4	2011	4	2011
Production Milestone: Contract Awards: LRIP 2 RDTEN	2	2012	2	2012
Production Milestone: Contract Awards: Full Rate Production (FRP)	1	2013	1	2013
Production Milestone: Deliveries: LRIP 1 (Lot 1 - Qty 30)	3	2012	1	2013
Production Milestone: Deliveries: LRIP 2 (Lot 2 - Qty 64)	2	2013	2	2014
Production Milestone: Deliveries: FRP (Lot 3 - Qty 86) (Lot 4 - Qty 80) (Lot 5 - Qty 73)	4	2014	4	2016
<i>Infra-Red Search and Track</i>				
Acquisition Milestones: Milestones: Milestone B (MS B)	3	2011	3	2011
Acquisition Milestones: Milestones: Milestone C (MS C)	3	2014	3	2014
Acquisition Milestones: Milestones: Initial Operational Capability (IOC)	4	2016	4	2016
System Development: Engineering and Manufacturing Development: Engineering and Manufacturing Development	3	2011	4	2015
System Development: Engineering and Manufacturing Development: Eng Dev Model (EDM) IRST Delivery - Lab/IT&E (Unit 1)	1	2014	1	2014
System Development: Engineering and Manufacturing Development: Eng Dev Model (EDM) IRST Delivery - Lab/IT&E (Unit 2)	2	2014	2	2014

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>	PROJECT 1662: <i>F/A-18 Improvement</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
System Development: Engineering and Manufacturing Development: Eng Dev Model (EDM) IRST Delivery - (Environmental Evaluation Unit-EEU)	1	2014	1	2014
System Development: Engineering and Manufacturing Development: EDM Conversion	2	2015	3	2015
System Development: Software Development: H10 Fleet Release	4	2014	4	2014
System Development: Software Development: H12 Fleet Release	4	2016	4	2016
System Development: Software Development: IRST Software Build	4	2011	1	2016
System Development: Reviews: Preliminary Design Review (PDR)	1	2011	1	2011
System Development: Reviews: Integrated Baseline Review (IBR) 1	1	2012	1	2012
System Development: Reviews: Critical Design Review (CDR)	3	2012	3	2012
System Development: Reviews: Fleet Readiness Review (FRR)	4	2012	4	2012
System Development: Reviews: Test Readiness Review (TRR) 1	1	2013	1	2013
System Development: Reviews: Test Readiness Review (TRR) 2	3	2014	3	2014
System Development: Reviews: Preproduction Readiness Review (PRR)	2	2014	2	2014
System Development: Reviews: Functional Configuration Audit (FCA)	2	2014	2	2014
System Development: Reviews: Integrated Baseline Review (IBR) 2	2	2015	2	2015
System Development: Reviews: Operational Testing Readiness Review (OTRR)	4	2015	4	2015
System Development: Reviews: Physical Configuration Audit (PCA)	3	2016	3	2016
Test and Evaluation: Integration Testing: Integration Testing (IT-B1)	2	2013	3	2014
Test and Evaluation: Integration Testing: Integration Testing (IT-C1)	3	2014	4	2015
Test and Evaluation: Operational Testing: Operational Assessment (OA)	1	2014	1	2014
Test and Evaluation: Operational Testing: Integrated Operational Test & Evaluation (IOT&E)	1	2016	2	2016
Test and Evaluation: Operational Testing: OPEVAL Report	3	2016	3	2016
Production Milestones: LRIP 1 APN	4	2014	4	2014
Production Milestones: LRIP 2 APN	2	2015	2	2015
Production Milestones: FRP I Start	1	2017	1	2017

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>	PROJECT 1662: <i>F/A-18 Improvement</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Production Milestones: Deliveries: Low Rate Initial Production I (Lot 1 - Qty 6)	2	2016	4	2016
SSG/SEI, HGESM				
System Development: Software Development: Software Development	1	2011	2	2011
System Development: Software Development: Software Integration	1	2011	2	2011
System Development: Reviews: Operational Testing Readiness Review (OTRR)	1	2012	1	2012
Test and Evaluation: Validation/Verification, IT&E	3	2011	4	2011
Test and Evaluation: Operational Evaluation (OPEVAL)	1	2012	3	2012
Production Milestones: Deliveries: Fleet Release	4	2012	4	2012
MSI Phase I				
System Development: Software Development: Software Development MSI	1	2011	2	2011
System Development: Software Development: Software Integration MSI	1	2011	2	2011
System Development: Reviews: Operational Testing Readiness Review (OTRR) MSI	1	2012	1	2012
Test and Evaluation: Validation/Verification, IT&E MSI	3	2011	4	2011
Test and Evaluation: Operational Evaluation (OPEVAL) MSI	1	2012	3	2012
Production Milestones: Deliveries: Fleet Release MSI Ph I	4	2012	4	2012
MSI Phase II				
System Development: Requirements Definition	1	2011	1	2011
System Development: Design & Development	1	2011	1	2012
Test and Evaluation: Integration Testing MSI	2	2012	2	2013
Test and Evaluation: Operational Testing H10	1	2014	3	2014
Production Milestones: Deliveries: Fleet Release MSI Ph II	4	2014	4	2014
MSI Phase III				
System Development: Concept Development	1	2011	4	2011
System Development: Requirements Definition MSI Ph III/H12	1	2012	3	2013
System Development: Design & Development MSI Ph III/H12	3	2013	1	2014

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>	PROJECT 1662: <i>F/A-18 Improvement</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Test and Evaluation: Integration Testing MSI Ph III/H12	2	2014	3	2015
Test and Evaluation: OT MSI Ph III/H12	4	2015	2	2016
Production Milestones: Fleet Release MSI Ph III/H12	4	2016	4	2016
<i>Automatic Ground Collision Avoidance System (AGCAS)/Automated Terrain Avoidance and Warning System (ATAWS)</i>				
System Development: Hardware Development: Statement of Work Development	1	2012	4	2012
System Development: Software Development: System Performance Specification	1	2012	1	2012
System Development: Software Development: H12 Software Development & Delivery	1	2012	3	2016
System Development: Software Development: H14 Software Development & Delivery	4	2013	4	2016
System Development: Software Development: Integrated Readiness Review	4	2011	4	2011
System Development: Reviews: System Software Review (SSR)	2	2012	2	2012
System Development: Reviews: Critical Design Review (CDR)	1	2013	1	2013
System Development: Reviews: Test Readiness Review (TRR)	4	2015	4	2015
Test and Evaluation: Developmental Testing	1	2016	4	2016
Test and Evaluation: TEMP Development	2	2013	1	2014

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>	PROJECT 2065: <i>F/A-18 Radar Upgrade</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2065: <i>F/A-18 Radar Upgrade</i>	13.002	52.114	64.076	-	64.076	36.207	55.815	58.799	-	0.000	280.013
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

F/A-18 Radio Detection and Ranging (RADAR) Upgrade: The F/A-18 RADAR Upgrade, Active Electronically Scanned Array (AESA) development program, which began in FY 1999, is the last of three pre-planned upgrades to the F/A-18 Type/Model/Series RADAR. The AESA system corrects operational test deficiencies noted in the AN/APG-73. It provides for multi-target tracking, Synthetic Aperture RADAR (SAR) imagery, SAR Target Location Error (TLE), and improved spotlight map resolution. In addition, it provides for greater lethality than previous F/A-18 RADARs by allowing for full tactical support of existing and planned air-to-air (A/A) and air-to-ground (A/G) weapons and it significantly increases A/A and A/G detection and tracking ranges. The AESA system provides greater survivability through self-protection and standoff jamming capabilities, while its greater range allows for reduced detection by enemy RADAR. This budget continues spiral capability development of AESA by increased efforts to address Phase II Operational Requirements Document requirements such as Counter-Electronic Attack against multiple Radio Frequency Emitters (AESA Multi-Jammer Electronic Protection (EP) and Monopulse Solution Development), Precision TLE improvement, improved RADAR targeting capability within visual range (Aircraft Combat Maneuvering Mode Development), and upgraded test and evaluation equipment (AESA Instrumentation upgrade). Higher Order Language Software development and integration is also required for expanded A/A and A/G capabilities while in a tactical A/A and A/G threat Electronic Attack environment.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<p>Title: Distributed Targeting - AESA EP Engineering and Manufacturing Development (EMD)</p> <p align="right">Articles:</p>	2.750 0	2.457 0	-	-	-
<p>Description: The AESA system provides greater survivability through self-protection and standoff jamming capabilities. This budget continues spiral capability development of AESA by increased efforts to address Phase II Operational Requirements Document requirements.</p> <p>FY 2011 Accomplishments: Continued EMD efforts. Continued hardware developmental and refinement to the inherent EP.</p> <p>FY 2012 Plans: Continue EMD efforts. Continue hardware developmental and refinement to the inherent EP.</p>					
<p>Title: Distributed Targeting - AESA EP Software Development, Developmental Testing, Operational Testing, & Integration</p> <p align="right">Articles:</p>	10.252 0	49.657 0	64.076 0	-	64.076 0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Description: Funding being utilized to support software capabilities development and associated testing.					
FY 2011 Accomplishments: Continued software (S/W) development, Development Testing, systems integration efforts, and Active Electronically Scanned Array (AESA) Operational Test and Evaluation (OT&E) inclusive of some Follow-On Test and Evaluation (FOT&E) for minimal hardware (H/W) and S/W change efforts.					
FY 2012 Plans: Continue S/W development, Development Testing, systems integration efforts, and AESA OT&E inclusive of some FOT&E for H/W and S/W change efforts. Begin AESA Counter-Electronic Attack (CEA) #1 efforts.					
FY 2013 Base Plans: Continue S/W development, Development Testing, systems integration efforts, and AESA OT&E inclusive of some FOT&E for H/W and S/W change efforts. Continue AESA CEA #1 efforts.					
Accomplishments/Planned Programs Subtotals	13.002	52.114	64.076	-	64.076

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

Line Item	FY 2011	FY 2012	FY 2013	FY 2013	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Cost To	
			Base	OCO	Total					Complete	Total Cost
• APN/0145: <i>F/A-18E/F</i>	2,169.483	2,240.184	2,035.131	0.000	2,035.131	1,140.153	0.000	0.000	0.000	0.000	42,574.873
• APN/0145C: <i>F/A-18E/F AP</i>	2.282	63.262	30.296	0.000	30.296	0.000	0.000	0.000	0.000	0.000	1,650.192
• APN/0143: <i>EA-18G</i>	955.262	994.596	1,027.443	0.000	1,027.443	21.970	8.111	0.000	0.000	0.000	8,651.090
• APN/1043C: <i>EA-18G AP</i>	43.866	28.119	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	263.668
• APN/05250: <i>F-18 Series Mod (OSIP 002-07)</i>	122.729	67.548	119.586	0.000	119.586	192.359	217.080	295.183	197.038	432.291	1,897.192

D. Acquisition Strategy

The AESA program continues developmental efforts following a successful Full Rate Production milestone decision, after completing a two-phase Acquisition approach during the FY1999 through FY2007 timeframe. This strategy continues utilization of reform initiatives such as: early partnering with industry; leveraging industry investment; optimizing use of Commercial Off-The Shelf software and Non-Developmental Item; using Cost as an Independent Variable; and Electronic Data Deliverables. Basic Ordering Agreement orders for Request for Proposal developments are in place for Boeing, the airframe prime manufacturer/integrator, and Raytheon, the Radio Detection and Ranging manufacturer, for focused risk reduction and sustainment of prior developmental activities.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
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E. Performance Metrics

Execute the system engineering process for S/W delivery and support the design and development of Electronic Protection, air to air, and air to ground capabilities.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>	PROJECT 2065: <i>F/A-18 Radar Upgrade</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 (H/W) Development 1	SS/CPFF	Boeing:St. Louis, MO	453.849	-		-		-		-	0.000	453.849	453.849
Government Furnished Equipment	SS/CPFF	Boeing:St. Louis, MO	3.517	-		-		-		-	0.000	3.517	3.517
Primary H/W Development	WR	NSMA:Arlington, VA	4.910	0.100	Feb 2012	-		-		-	0.649	5.659	
Primary H/W Development 2 (Monopulse)	SS/CPFF	Boeing:St. Louis, MO	1.750	0.497	May 2012	-		-		-	1.426	3.673	3.673
Systems Engineering	WR	NAWCWD:China Lake, CA	1.095	0.474	Nov 2011	0.488	Nov 2012	-		0.488	0.465	2.522	
Systems Engineering	WR	NAWCAD:Pax River, MD	1.046	0.245	Nov 2011	0.561	Nov 2012	-		0.561	0.527	2.379	
Software Development 2 Counter Electronic Attack #1	WR	NSMA:Arlington, VA	-	45.200	Jun 2012	55.000	Jun 2013	-		55.000	141.375	241.575	
Subtotal			466.167	46.516		56.049		-		56.049	144.442	713.174	

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 (Instrumentation)	WR	NAWCWD:China Lake, CA	32.991	4.018	Aug 2012	7.246	May 2013	-		7.246	3.640	47.895	
Integrated Logistics Support	WR	Various:Various	1.511	0.267	Nov 2011	-		-		-	0.558	2.336	
Subtotal			34.502	4.285		7.246		-		7.246	4.198	50.231	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	78.958	-		-		-		-	0.000	78.958	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>	PROJECT 2065: <i>F/A-18 Radar Upgrade</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 & Evaluation	WR	OPTEVFOR:Norfolk, VA	16.482	0.274	Mar 2012	-		-		-	0.817	17.573	
Developmental Test & Evaluation (DT&E)	WR	NSMA:Arlington, VA	0.950	0.100	Feb 2012	-		-		-	0.000	1.050	
DT&E	MIPR	USAF Test Wing:Eglin AFB, FL	1.440	-		-		-		-	0.000	1.440	
DT&E	WR	NAWCAD:Pax River, MD	0.382	-		-		-		-	0.000	0.382	
DT&E	C/FFP	Raytheon:El Segundo, CA	5.792	-		-		-		-	0.000	5.792	5.792
DT&E Target Location Error	WR	NAWCWD:China Lake, CA	5.397	0.100	Aug 2012	-		-		-	0.817	6.314	
Subtotal			109.401	0.474		-		-		-	1.634	111.509	

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	NAWCAD:Pax River, MD	4.187	0.267	Nov 2011	0.178	Nov 2012	-		0.178	0.428	5.060	
Travel	Various	NAVAIR:Pax River, MD	1.168	0.051	Nov 2011	0.045	Nov 2012	-		0.045	0.079	1.343	
Contractor Engineering Support	Various	Various:Various	1.119	0.521	Nov 2011	0.558	Nov 2012	-		0.558	1.245	3.443	
Subtotal			6.474	0.839		0.781		-		0.781	1.752	9.846	

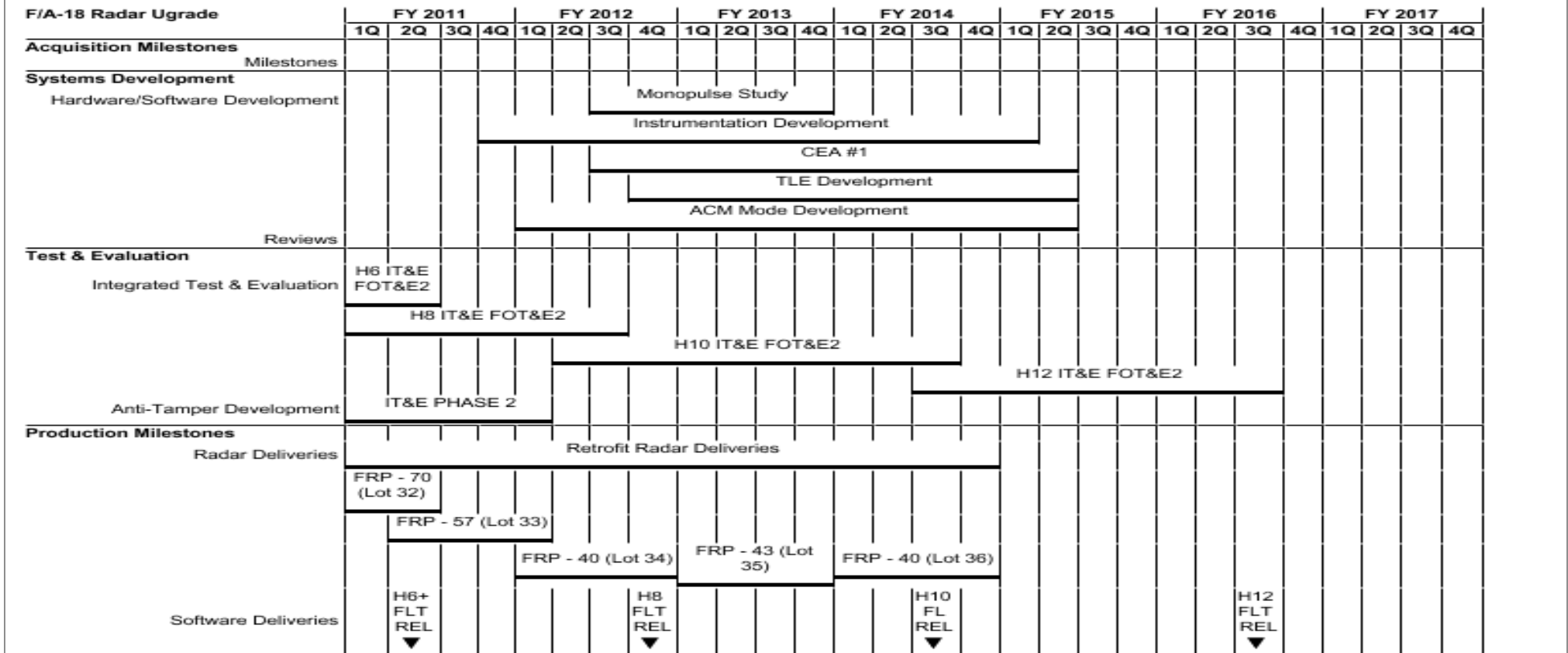
	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		616.544	52.114		64.076		-	64.076	152.026	884.760	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204136N: <i>F/A-18 Squadrons</i>	PROJECT 2065: <i>F/A-18 Radar Upgrade</i>
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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>F/A-18 Radar Upgrade</i>				
Systems Development: Hardware/Software Development: Monopulse Study	3	2012	4	2013
Systems Development: Hardware/Software Development: Instrumentation Development	4	2011	1	2015
Systems Development: Hardware/Software Development: CEA #1	3	2012	2	2015
Systems Development: Hardware/Software Development: TLE Development	4	2012	2	2015
Systems Development: Hardware/Software Development: ACM Mode Development	1	2012	2	2015
Test & Evaluation: Integrated Test & Evaluation: H6 IT&E FOT&E2	1	2011	2	2011
Test & Evaluation: Integrated Test & Evaluation: H8 IT&E FOT&E2	1	2011	3	2012
Test & Evaluation: Integrated Test & Evaluation: H10 IT&E FOT&E2	2	2012	3	2014
Test & Evaluation: Integrated Test & Evaluation: H12 IT&E FOT&E2	3	2014	3	2016
Test & Evaluation: Anti-Tamper Development: IT&E PHASE 2	1	2011	1	2012
Production Milestones: Radar Deliveries: Retrofit Radar Deliveries	1	2011	4	2014
Production Milestones: Radar Deliveries: FRP Deliveries - 70 (Lot 32)	1	2011	2	2011
Production Milestones: Radar Deliveries: FRP Deliveries - 57 (Lot 33)	2	2011	1	2012
Production Milestones: Radar Deliveries: FRP Deliveries - 40 (Lot 34)	1	2012	4	2012
Production Milestones: Radar Deliveries: FRP Deliveries A - 46 (Lot 35)	1	2013	4	2013
Production Milestones: Radar Deliveries: FRP Deliveries B - 40 (Lot 36)	1	2014	4	2014
Production Milestones: Software Deliveries: H6+ FLEET RELEASE	2	2011	2	2011
Production Milestones: Software Deliveries: H8 FLEET RELEASE	4	2012	4	2012
Production Milestones: Software Deliveries: H10 FLEET RELEASE	3	2014	3	2014
Production Milestones: Software Deliveries: H12 FLEET RELEASE	3	2016	3	2016

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204152N: <i>E-2 Squadrons</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	20.774	6.687	8.610	-	8.610	3.816	7.098	14.736	12.703	Continuing	Continuing
0463: <i>E2C Improvements</i>	20.774	6.687	8.610	-	8.610	3.816	7.098	14.736	12.703	Continuing	Continuing

A. Mission Description and Budget Item Justification

E-2 Improvements (0463) provides for incorporation of technologies for the evolution of E-2 Battle Management and Command and Control capabilities in support of naval warfare command and control requirements. It funds developments for the modification or replacement of Weapon Replaceable Assemblies of currently installed subsystems, as well as providing for experimentation with narrowband and wideband internet protocol (IP) concepts, to include technologies such as High Frequency Secure IP Router Network, VRC-99 digital IP radio as a surrogate to the Joint Tactical Radio System, machine-to-machine digital data communications, Advanced Digital Networking System, cooperative and non-cooperative identification, and open architecture hardware and software computing environments. It also provided funds for Automatic Identification System as a broadcast transponder system to transfer information off board to other platform systems. These efforts have laid the foundation for growth to provide additional functional capabilities satisfying evolving operational requirements, e.g., Airborne Networking, Joint Sensor Netting and Track Management, Tactical Decision Aids, Advanced communications, and permits the evolutionary growth of a Combat Identification and Theater Air and Missile Defense Capability.

A Core Open Architecture capability will modernize existing Mission Computer and Operational Flight Program architecture, preserve interfaces to future E-2 weapon systems modification, simplify maintenance and upgrades of memory and operating systems (hardware/software independence), add an improved networking backbone to quickly field future interoperable warfighting applications and utilize open and commercially adopted standards and protocols to the maximum extent possible.

An In Flight Refueling (IFR) capability will allow the E-2 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-2 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.

Radar Improvement Program provides funding to develop and field improvements to APS-145 radar to address reliability and obsolescence and keep them viable until aircraft retirement.

Link-16/Cooperative Engagement Capability Interoperability Program funding is to address most severe data link related interoperability. This will significantly improve the quality of the tactical surveillance picture, reduce the possibility of leakers, mitigate Blue on Blue engagements, and mid-identification of tracks. Provides stable sensor fusion foundation to support sensor/weapon coordination requirements.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204152N: <i>E-2 Squadrons</i>
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B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	19.011	6.696	1.634	-	1.634
Current President's Budget	20.774	6.687	8.610	-	8.610
Total Adjustments	1.763	-0.009	6.976	-	6.976
• Congressional General Reductions	-	-0.009			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	2.230	-			
• SBIR/STTR Transfer	-0.360	-			
• Program Adjustments	-	-	6.948	-	6.948
• Rate/Misc Adjustments	-	-	0.028	-	0.028
• Congressional General Reductions Adjustments	-0.107	-	-	-	-

Change Summary Explanation

Technical: Not applicable.

Schedule: Link-16/Cooperative Engagement Capability more accurately reflects the time needed for systems engineering and software development with cross coordination of multiple programs.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT			
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				PE 0204152N: <i>E-2 Squadrons</i>				0463: <i>E2C Improvements</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
0463: <i>E2C Improvements</i>	20.774	6.687	8.610	-	8.610	3.816	7.098	14.736	12.703	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

E-2 Improvements (0463) provides for incorporation of technologies for the evolution of E-2 Battle Management and Command and Control capabilities in support of naval warfare command and control requirements. It funds developments for the modification or replacement of Weapon Replaceable Assemblies of currently installed subsystems, as well as providing for experimentation with narrowband and wideband internet protocol (IP) concepts, to include technologies such as High Frequency Secure IP Router Network, VRC-99 digital IP radio as a surrogate to the Joint Tactical Radio System, machine-to-machine digital data communications, Advanced Digital Networking System, cooperative and non-cooperative identification, and open architecture hardware and software computing environments. It also provided funds for Automatic Identification System as a broadcast transponder system to transfer information off board to other platform systems. These efforts have laid the foundation for growth to provide additional functional capabilities satisfying evolving operational requirements, e.g., Airborne Networking, Joint Sensor Netting and Track Management, Tactical Decision Aids, Advanced communications, and permits the evolutionary growth of a Combat Identification and Theater Air and Missile Defense Capability.

A Core Open Architecture capability will modernize existing Mission Computer and Operational Flight Program architecture, preserve interfaces to future E-2 weapon systems modification, simplify maintenance and upgrades of memory and operating systems (hardware/software independence), add an improved networking backbone to quickly field future interoperable warfighting applications and utilize open and commercially adopted standards and protocols to the maximum extent possible.

An In Flight Refueling (IFR) capability will allow the E-2 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-2 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.

Radar Improvement Program provides funding to develop, and field improvements to APS-145 radar to address reliability and obsolescence and keep them viable until aircraft retirement.

Link-16/Cooperative Engagement Capability Interoperability Program funding is to address most severe data link related interoperability. This will significantly improve the quality of the tactical surveillance picture, reduce the possibility of leakers, mitigate Blue on Blue engagements, and mid-identification of tracks. Provides stable sensor fusion foundation to support sensor/weapon coordination requirements.

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

	FY 2011	FY 2012	FY 2013
Title: Airborne Battlefield Command and Control	5.738	3.507	1.202

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204152N: <i>E-2 Squadrons</i>	PROJECT 0463: <i>E2C Improvements</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
Articles:		0	0	0
<p>Description: Funds development and demonstration of E-2 airborne Joint Sensor Netting and Track Management (including Network Centric Collaborative Targeting), Internet Protocol (IP) networking concepts (including Advanced Digital Networking Systems, and IP enabled communications systems), machine-to-machine interface, open architecture computing environment, network applications, tactical decision aids, combat identification technologies, on and off-board data fusion capabilities, and advanced mission computer and communications technologies airborne demonstrations.</p> <p>FY 2011 Accomplishments: Funded the continuation of development efforts and a Empire Challenge exercise and a Limited Objective Experiment.</p> <p>FY 2012 Plans: Funds are for development efforts and a Joint Expeditionary Force Exercise and a Limited Objective Experiment.</p> <p>FY 2013 Plans: Funding is for developmental efforts and a Trident Warrior Experiment and a Limited Objective Experiment.</p>				
Title: In Flight Refueling (IFR)		1.197	-	-
Articles:		0		
<p>Description: Funds the system development and testing to support the incorporation of In Flight Refueling capability into the E-2 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 verify system meets requirements and evaluate field of view, thermal and aerodynamic loads, kinematic performance, and handling qualities. FY12 funding moves to PE 0604234N, E-2D Advanced Hawkeye.</p> <p>FY 2011 Accomplishments: Funded the continuation of system development efforts.</p>				
Title: E-2 Core Open Architecture (OA)		5.556	-	-
Articles:		0		
<p>Description: Funding supports the development, integration and test of an Open Architecture distributed computing environment and Internet Protocol networking infrastructure.</p> <p>FY 2011 Accomplishments: Funded the continuation of system integration and test and the beginning of Trainer Integration.</p>				
Title: E-2 High Frequency (HF) Internet Protocol (IP)		2.212	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204152N: <i>E-2 Squadrons</i>	PROJECT 0463: <i>E2C Improvements</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
Articles:		0		
Description: Funds the development, integration and test of High Frequency (HF) radio and Mission Computer hardware and software modifications and additions to provide an E-2 HF digital data communications path, allowing for E-2 connectivity with other High Frequency Internet Protocol (HFIP) users. FY 2011 Accomplishments: Funded the HFIP trainers.				
Title: Radar Improvements Program		6.071	2.875	-
Articles:		0	0	
Description: Funds development, integration, test, and fielding of new components within the E-2C radar to address obsolete Weapon Replaceable Assemblies (WRA) that are expected to be unsupported in the near term. Such improvements will keep the APS-145 radar viable until 2026, the projected E-2C retirement date. This funding also supports necessary modifications within the APS-145 Radar Test Bench System. FY 2011 Accomplishments: Funded the continuation of the design and development efforts and ground and flight testing. FY 2012 Plans: Funds the continuation of ground and flight testing and software deployment.				
Title: Link-16/Cooperative Engagement Capability (CEC) Interoperability		-	0.305	7.408
Articles:			0	0
Description: New start program in FY12 for design, implementation, test and analysis of Link-16/CEC related interoperability issues. FY 2012 Plans: Funds the systems engineering development efforts. FY 2013 Plans: Funding provides continuing systems engineering development efforts.				
Accomplishments/Planned Programs Subtotals		20.774	6.687	8.610

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204152N: <i>E-2 Squadrons</i>	PROJECT 0463: <i>E2C Improvements</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2013</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u>	<u>Total Cost</u>
			<u>Base</u>	<u>OCO</u>	<u>Total</u>					<u>Complete</u>	
• APN/0195: <i>E-2D AHE</i>	1,104.995	1,044.834	984.677	0.000	984.677	1,151.265	1,396.652	1,346.115	1,519.352	5,834.916	19,326.794
• APN/0605: <i>Initial Spares - E-2</i>	42.287	30.012	55.383	0.000	55.383	25.298	21.934	26.473	28.745	118.422	593.426
• APN/0544: <i>E-2 Series</i>	66.557	29.215	16.322	0.000	16.322	31.132	35.682	35.650	36.229	49.679	1,595.309

D. Acquisition Strategy

The Core Open Architecture (Core OA) Acquisition Strategy was signed by Milestone Decision Authority (MDA), Program Executive Officer Tactical Aircraft Programs (PEO (T)) on 11 September 2008.

The In Flight Refueling (IFR) Acquisition Strategy was signed by the MDA, PEO(T) on 24 October 2008.

E. Performance Metrics

Successfully complete Core OA System Integration and Test and begin Trainer Integration. Successfully develop and deliver Trainers in support of the High Frequency Internet Protocol program. Successfully complete the Pre - System Development & Demonstration phase in support of the IFR program. Successfully complete developmental testing and deploy the Universal Automated Information System (UAIS). Successfully complete Design Development for the Radar Improvements program and begin ground and flight testing. Successfully complete Design Development for the Link-16/Cooperative Engagement Capability Interoperability program.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204152N: <i>E-2 Squadrons</i>	PROJECT 0463: <i>E2C Improvements</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 Development4	Various	Various:Various	18.444	0.752	Nov 2011	-		-		-	0.000	19.196	
Primary Hardware Development	SS/FFP	Lockheed Martin:Owego, NY	4.490	-		-		-		-	0.000	4.490	4.490
Ancillary Hardware Development	Various	Various:Various	0.300	0.440	Jan 2012	-		-		-	0.000	0.740	
Aircraft Integration2	Various	Various:Various	0.300	-		-		-		-	0.000	0.300	
Training Development	TBD	TBD:TBD	-	-		-		-		-	3.077	3.077	3.077
Prior Yr Costs No longer funded in FYDP	Various	Various:Various	9.098	-		-		-		-	0.000	9.098	
Subtotal			32.632	1.192		-		-		-	3.077	36.901	

Remarks
 Primary Hardware Development4 - various contractors and award dates throughout the fiscal year.
 Totals may not add due to rounding.

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	0.934	0.346	Dec 2011	0.064	Nov 2012	-		0.064	0.000	1.344	
Development Support	TBD	TBD:TBD	-	-		-		-		-	2.194	2.194	2.194
Software Development4	TBD	TBD:TBD	-	0.051	Nov 2011	5.931	Nov 2012	-		5.931	21.995	27.977	27.977
Engineering & Technical Services (ETS)	Various	Various:Various	10.641	1.013	Dec 2011	0.477	Nov 2012	-		0.477	0.262	12.393	
Government Engineering Support2	Various	Various:Various	13.980	0.555	Nov 2011	-		-		-	0.000	14.535	
Government Engineering Support3	WR	Naval Air Warfare Center Aircraft Division (NAWCAD:Pax River, MD)	12.116	0.975	Nov 2011	1.069	Nov 2012	-		1.069	3.737	17.897	
Integrated Logistics Support	Various	Various:Various	2.252	0.093	Dec 2011	0.060	Dec 2012	-		0.060	0.496	2.901	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204152N: <i>E-2 Squadrons</i>	PROJECT 0463: <i>E2C Improvements</i>
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Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Year Costs No Longer Funded in FYDP	Various	Various:Various	55.142	-		-		-		-	0.000	55.142	
Subtotal			95.065	3.033		7.601		-		7.601	28.684	134.383	

Remarks
Totals may not add due to rounding.

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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)2	Various	Various:Various	11.961	0.418	Nov 2011	0.539	Nov 2012	-		0.539	0.200	13.118	
Developmental T & E3	WR	NAWCAD:Pax River, MD	9.395	0.859	Nov 2011	-		-		-	0.000	10.254	
Developmental T&E Engineering Technical Services (ETS)4	Various	Various:Various	1.953	0.313	Dec 2011	-		-		-	0.000	2.266	
Developmental T & E	TBD	TBD:TBD	-	-		-		-		-	5.969	5.969	5.969
Prior Year Costs No Longer Funded in FYDP	Various	Various:Various	1.420	-		-		-		-	0.000	1.420	
Subtotal			24.729	1.590		0.539		-		0.539	6.169	33.027	

Remarks
Totals may not add due to rounding.

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	5.098	0.407	Nov 2011	0.292	Nov 2012	-		0.292	0.200	5.997	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204152N: <i>E-2 Squadrons</i>	PROJECT 0463: <i>E2C Improvements</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 Support1	Various	Various:Various	6.258	0.292	Nov 2011	0.081	Nov 2012	-		0.081	0.054	6.685	
Program Management Support-MSS2	C/CPFF	Wyle Labs:Huntsville, AL	2.017	0.060	Dec 2011	0.052	Dec 2012	-		0.052	0.049	2.178	2.178
Program Management Support-MSS3	Various	Various:Various	5.662	0.058	Dec 2011	-		-		-	0.000	5.720	
Travel	Various	Various:Various	0.758	0.055	Oct 2011	0.045	Oct 2012	-		0.045	0.120	0.978	
Prior Year Costs No Longer Funded in FYDP	Various	Various:Various	0.419	-		-		-		-	0.000	0.419	
Subtotal			20.212	0.872		0.470		-		0.470	0.423	21.977	

Remarks
Program Management Support1- various contractors and award dates throughout the fiscal year.
Totals may not add due to rounding.

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	172.638	6.687		8.610		-		8.610	38.353	226.288	

Remarks
Totals may not add due to rounding.

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204152N: <i>E-2 Squadrons</i>
PROJECT 0463: <i>E2C Improvements</i>	

E2C Improvements (1)	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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
Airborne Battlefield Command & Control (C2)																												
Systems Development																												
Hardware Development	ABC2 Development																											
			TW11 ▼	LOE ▼			JEFX ▼	LOE ▼					TW ▼	LOE ▼														
Core Open Architecture (OA)																												
Systems Development																												
Hardware/Software Development	Develop & integrate																											
					Trainer Int																							
Test & Evaluation																												
Technical Evaluation			Test Asset ▼				Test																					
In-Flight Refueling (IFR)																												
Systems Development																												
Software Development																												
Reviews			SRR 1 ■																									

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204152N: <i>E-2 Squadrons</i>	PROJECT 0463: <i>E2C Improvements</i>
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	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017							
	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				
E2C Improvements (2)																																
Radar Improvements																																
Systems Development																																
Hardware Development	Design/Development																															
Test & Evaluation																																
Technical Evaluation	Test Assets		Fit Test		Deploy																											
Deliveries																																
APN (23 Kits)					APN (23 Kits)				APN (10 Kits)				APN (12 Kits)				APN (11 Kits)															
Link 16 Cooperative Engagement Capability (CEC)																																
Systems Development																																
Software Development					Systems Engineering																											
Development																																
Test & Evaluation																																
Technical Evaluation																					Functional Test				Perf Eval Test							
Deliveries																																
APN (10 Kits)																					APN (10 Kits)											
High Frequency Internet Protocol (HFIP)																																
Systems Development																																
Hardware/Software Development	Sys Integ & Test		Trainer Integr																													
Deploy 2	Deploy 2																															

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204152N: <i>E-2 Squadrons</i>	PROJECT 0463: <i>E2C Improvements</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
E2C Improvements (1)				
Systems Development: Hardware Development: Airborne Battlefield C2 - Development	1	2011	1	2014
Systems Development: Hardware Development: Airborne Battlefield C2 - Trident Warrior FY11	3	2011	3	2011
Systems Development: Hardware Development: Airborne Battlefield C2 - LOE FY11	4	2011	4	2011
Systems Development: Hardware Development: Airborne Battlefield C2 - JEFX FY12	3	2012	3	2012
Systems Development: Hardware Development: Airborne Battlefield C2 - LOE FY12	4	2012	4	2012
Systems Development: Hardware Development: Airborne Battlefield C2 - TWFY13	3	2013	3	2013
Systems Development: Hardware Development: Airborne Battlefield C2 - LOE FY13	4	2013	4	2013
Systems Development: Hardware/Software Development: Core Open Arch - Develop & Integrate	1	2011	3	2011
Systems Development: Hardware/Software Development: Core Open Arch - Trainer Integration	3	2011	3	2012
Systems Development: Hardware/Software Development: Core Open Arch - ILS	4	2011	1	2012
Test & Evaluation: Technical Evaluation: Core Open Arch - Test Asset Delivery (Est.)	2	2011	2	2011
Test & Evaluation: Technical Evaluation: Core Open Arch - Test	3	2011	1	2012
Systems Development: Software Development: In Flight Refueling - Risk Reduction	1	2011	1	2011
Systems Development: Reviews: In Flight Refueling - System Readiness Review (SRR 1)	1	2011	1	2011
E2C Improvements (2)				
Systems Development: Hardware Development: Radar Improvement Program - Development	1	2011	4	2011
Test & Evaluation: Technical Evaluation: Radar Improvement Program - Test Assets (Est.)	2	2011	2	2011

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204152N: <i>E-2 Squadrons</i>	PROJECT 0463: <i>E2C Improvements</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Test & Evaluation: Technical Evaluation: Radar Improvement Program - Ground & Flight Test	2	2011	1	2012
Test & Evaluation: Technical Evaluation: Radar Improvement Program - Deploy	2	2012	2	2012
Deliveries: Radar Improvements Production Deliveries: FY12 APN (23 KIts)	2	2012	2	2012
Deliveries: Radar Improvements Production Deliveries: FY13 APN (10 KIts)	2	2013	2	2013
Deliveries: Radar Improvements Production Deliveries: FY14 APN (12 KIts)	2	2014	2	2014
Deliveries: Radar Improvements Production Deliveries: FY15 APN (11 KIts)	2	2015	2	2015
Systems Development: Software Development: Link-16/CEC Interoperability - Systems Engineering	1	2012	4	2017
Systems Development: Software Development: Link-16/CEC Interoperability - Development	1	2014	4	2017
Test & Evaluation: Technical Evaluation: Link-16/CEC Interoperability - Functional Evaluation Test	4	2015	4	2015
Test & Evaluation: Technical Evaluation: Link-16/CEC Interoperability - Performance Evaluation Test	4	2016	4	2016
Deliveries: Link 16 CEC Production Deliveries: FY16 APN (10 Kits)	2	2016	2	2016
Systems Development: Hardware/Software Development: High Frequency Internet Proto - System Integration & Test	1	2011	1	2011
Systems Development: Hardware/Software Development: High Frequency Internet Proto - Trainers	1	2011	3	2011
Systems Development: Hardware/Software Development: High Frequency Internet Proto - Deploy 2	2	2011	2	2011

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204163N: <i>Fleet Tactical Development</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	27.321	1.739	15.695	-	15.695	39.885	55.572	27.969	58.573	Continuing	Continuing
0725: <i>Communication Automation</i>	8.246	1.739	15.695	-	15.695	39.885	55.572	27.969	58.573	Continuing	Continuing
1083: <i>Shore To Ship Com System</i>	19.075	-	-	-	-	-	-	-	-	0.000	19.075

A. Mission Description and Budget Item Justification

The Communications Automation Program - This project is a continuing program that provides for automation and communications upgrades for fleet tactical users. It includes Battle Force Tactical Networks (BFTN) (formerly High Frequency Internet Protocol/Sub Network Relay), Maritime Aerial Layer Network (MALN) and Automated Digital Network System (ADNS).

MALN is the Navy solution set to support the Joint Aerial Layer Network (JALN) in accordance with the JALN Initial Capabilities Document dated 27 August 2009 and the JALN Analysis of Alternatives (AoA) Final Report dated 31 October 2011. Based on the JALN AoA, the Navy is implementing MALN (formerly MALN Inc. 1 and MALN Inc. 2) as one integrated solution.

MALN is an advanced wideband communications network which will transport intelligence data, non-traditional Intelligence, Surveillance, and Reconnaissance (ISR) communications, and backbone network traffic using IP-based connectivity to achieve GIG interoperability. MALN provides data connectivity for multiple Navy platforms in a variety of scenarios, including Anti-Access Area Denial (A2AD).

ADNS is the method by which tactical Navy units transfer Internet Protocol (IP) data to Navy and Department of Defense communities on the Global Information Grid (GIG). ADNS serves as a gateway to enable joint and coalition interoperability for these tactical assets and ensures GIG connectivity. ADNS allows unclassified, secret, top secret traffic, and various joint, allied, and coalition services to reconnect to the Defense Information Systems Network ashore via radio paths and pier connectivity.

FY13-17 ADNS funds have been realigned to Program Element 0303138N. FY13 MALN funds will be used for interface design development and integration for network application.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204163N: <i>Fleet Tactical Development</i>
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B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	26.894	1.739	1.058	-	1.058
Current President's Budget	27.321	1.739	15.695	-	15.695
Total Adjustments	0.427	-	14.637	-	14.637
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	1.459	-			
• SBIR/STTR Transfer	-0.849	-			
• Program Adjustments	-	-	14.642	-	14.642
• Rate/Misc Adjustments	-	-	-0.005	-	-0.005
• Congressional General Reductions Adjustments	-0.183	-	-	-	-

Change Summary Explanation

Technical: Project Unit 1083 was realigned from Program Element 0204163N to 0101402N in FY12.

Technical: Project Unit 0725 (MALN)- Based upon the JALN AoA, the Navy is implementing MALN (formerly MALN Inc. 1 and MALN Inc. 2). ADNS was realigned from Program Element 0204163N to 0303138N in FY13 and out.

Schedule:

MALN: Implement MALN development beginning in 1QFY13.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204163N: <i>Fleet Tactical Development</i>	PROJECT 0725: <i>Communication Automation</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
0725: <i>Communication Automation</i>	8.246	1.739	15.695	-	15.695	39.885	55.572	27.969	58.573	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

Project 0725 Communication Automation Automated Digital Network System (ADNS) funding was realigned from PE 0204163N to CANES PE 0303138N in FY13 and out.

A. Mission Description and Budget Item Justification

Maritime Aerial Layer Network (MALN) is the Navy solution set to support the Joint Aerial Layer Network (JALN) in accordance with the JALN Initial Capabilities Document dated 27 August 2009 and the JALN Analysis of Alternatives (AoA) Final Report dated 31 October 2011. Based on the JALN AoA, the Navy is implementing MALN (formerly MALN Inc. 1 and MALN Inc. 2) as one integrated solution.

MALN is an advanced wideband communications network which will transport intelligence data, non-traditional Intelligence, Surveillance, and Reconnaissance (ISR) communications, and backbone network traffic using IP-based connectivity to achieve GIG interoperability. MALN provides data connectivity for multiple Navy platforms in a variety of scenarios, including Anti-Access Area Denial (A2AD).

Operationally, MALN will provide Navy platforms with critical communication paths in an adverse Satellite Communications (SATCOM) denied environment. By repurposing existing technologies, MALN will provide an aerial network capable of transmitting data Beyond Line of Sight (BLOS), i.e. over the horizon at distances and data rates that traditionally require SATCOM paths. In this manner, MALN addresses an A2AD scenario.

In support of the JALN AoA, MALN will use the Extended Data Rate (XDR) waveform for intra-battlegroup communications. A Common Data Link (CDL) waveform will provide a high capacity cross-link capability, and a Ultra High Frequency Internet Protocol (UHF IP) capability will provide a backup data transport capability. MALN will provide a networking and routing capability, and will maintain Position, Navigation and Timing (PNT) in absence of traditional sources (Global Positioning System (GPS) constellation). The MALN payload will be capable of being hosted on a variety of airborne platforms, providing the Navy maximum flexibility to meet operational communications requirements.

FY13 funds will be used to develop MALN acquisition and system engineering documentation, conduct risk reduction activities, trade studies and prototype development.

Automated Digital Network System (ADNS) provides routing, switching, baseband, configuration and monitoring capabilities for interconnecting naval, coalition and joint enclaves worldwide. ADNS utilizes off the shelf equipment and network protocols as specified by the Joint Technical Architecture. ADNS Increment (INC) II provides capabilities of load balancing, radio frequency restoral, initial quality of service to include application prioritization, initial traffic management, and enhancements designed to maximize use of available bandwidth for surface, shore, and airborne platforms. ADNS INC III converges all Navy tactical voice, video, and data

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

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requirements into a converged IP data stream. ADNS INC III interoperates with higher bandwidth satellites, supporting up to 25 mega bytes per second (Mbps) of throughput on unit level ships and up to 50 Mbps on force level ships. INC III architecture also incorporates an IPv4/IPv6 dual stack and a cipher text security architecture to align to joint and coalition networks, in addition to greater security utilizing the High Assurance Internet Protocol (IP) Encryptor (HAIZE) devices. ADNS INC III serves as the Navy tactical interface for IP Networking with Joint Tactical Radio System, and Advanced Extremely High Frequency to include Consolidated Afloat Networks Enterprise Services (CANES). ADNS will investigate emerging technologies to integrate with additional Department of Defense C4I Programs to improve interstrike group networking and extend the network to the tactical edge.

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

	FY 2011	FY 2012	FY 2013
<p>Title: Automated Digital Network System (ADNS)</p> <p align="right">Articles:</p> <p>FY 2011 Accomplishments: -Developed Traffic Engineering via Multiprotocol Label Switching/Virtual Private Networks (MPLS-VPNs) to support advance load distribution in ADNS INC III. ADNS INC III will enhance joint and coalition interoperability through new network routing architectures. Continued the Common Submarine Radio Room (CSRR) integration effort for ADNS INC III submarine systems, and conducted the Operational Assessment for ADNS INC III submarine systems. Evaluated technology insertion opportunities to provide ADNS with capabilities that will enhance network mobility for aircraft by developing a mobile ad hoc network architecture. ADNS INC II and III provides reduced size, weight and power designs for submarines, aircraft, and small vessels. Continued the development of updated system and subsystem interface designs for integration with new SATCOM and Radio Frequency (RF) paths, as they emerge. Continued the research and evaluation of emergent technology maturity for inclusion into ADNS systems based on defined capabilities requirements. Performed the INC II Airborne Developmental Testing (DT) and began INC II Airborne Operational Testing (OT) test events.</p> <p>FY 2012 Plans: -Complete the INC II Airborne OT test events. Complete the ADNS INC III system integration into the CSRR system. Conduct the DT, OT and Joint Interoperability Test Command (JITC) Certification of ADNS INC III Submarines. Finalize the INC II Airborne OT test report. Develop, integrate and test the Thin Line solution. Integration of SHF Split IP, MUOS and AMF/JTRS and CDL interfaces into ADNS system support. Test and integrate the evolving network applications as they are incorporated into the C4I architecture; actions will include examining and testing interfaces with Enterprise Network Management System, transition to IPv6, and final phase out of serial links. Continue the evaluation of technology insertion capabilities to the ADNS system to enhance network mobility for aircraft in a Joint-Aerial Layer Network (JALN) environment.</p>	4.181 0	1.739 0	-
<p>Title: Maritime Aerial Layer Network (MALN)</p> <p align="right">Articles:</p> <p>FY 2013 Plans: Develop acquisition and system engineering documentation in support of an RDT&E contract. Conduct analysis and risk reduction activities and prototype development in the routing, navigation, cross-link, and payload requirements.</p>	-	-	15.695 0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204163N: <i>Fleet Tactical Development</i>	PROJECT 0725: <i>Communication Automation</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Prototype development of the XDR payload. Trade studies and risk assessments will be completed in the areas of dynamic range and adjacent channel interference, XDR functionality, hardware RF options, security and information assurance, platform constraints, crosslink considerations, and acquisition and tracking. Risk reduction demonstrations will include a Doppler demonstration and a flight demonstration employing the MIT/LL satellite simulator on an aircraft communicating with a ground terminal.			
Title: Maritime Aerial Layer Network Inc 1 Articles:	0.902 0	-	-
FY 2011 Accomplishments: Continued system development, testing, demonstration and technical assessment of various systems for consideration in Joint Aerial Layer Network (JALN) Analysis of Alternatives (AoA). Completion of AoA in support of JALN.			
Title: Battle Force Tactical Network Articles:	0.743 0	-	-
FY 2011 Accomplishments: Continued test planning, test execution and associated report development (DT/OT) in support of a BFTN MS C decision in August 2011.			
Title: Maritime Aerial Layer Network Inc 2 Articles:	2.420 0	-	-
FY 2011 Accomplishments: Continued system development, testing, demonstration and technical assessment of various systems for consideration in Joint Aerial Layer Network (JALN) Analysis of Alternatives (AoA). Completion of AoA in support of JALN.			
Accomplishments/Planned Programs Subtotals	8.246	1.739	15.695

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2013</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u>	<u>Total Cost</u>
			<u>Base</u>	<u>OCO</u>	<u>Total</u>					<u>Complete</u>	
• OPN/3050/1: <i>Ship Comm Auto-ADNS</i>	33.692	53.614	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• OPN/2915: <i>CANES/ADNS</i>	0.000	0.000	57.770	0.000	57.770	44.470	46.134	40.262	42.492	0.000	231.128

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
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D. Acquisition Strategy

Maritime Aerial Layer Network (MALN) will address capability gaps as directed by the JALN AoA by integrating a suite of technical capabilities into a single payload. Technical and acquisition support will be provided to develop documentation necessary to conduct a full and open competition to procure EDMs.

Automated Digital Network System (ADNS): Evolutionary acquisition approach with overlapping development and implementation phases for defined Increment I, II, and III baselines. Increment I, II, and III will use competitively awarded contracts to implement changes consistent with acquisition initiatives. ADNS leverages Commercial Off The Shelf (COTS) products while capitalizing on acquisition reform initiatives to achieve material savings in the logistics, installation, integration and training areas. Where feasible, differing types of advantageous contract vehicles will be used to provide flexibility, decreased contract administrative costs, and encourage acquisition streamlining through the use of COTS products.

E. Performance Metrics

MALN - Successful risk reduction and demonstration of the XDR payload. Completion of the Capability Development Document (CDD).

ADNS - Included in the ADNS program goals are the improvements to bandwidth throughput, to connectivity to multiple Radio Frequency (RF) paths, greater security, and system capability delivered within a smaller form factor. The ADNS program will, at a minimum, provide bandwidth throughput enhancements resulting in an increase from 2 megabytes per second (Mbps) to 25 Mbps. ADNS will also provide the ability to transport data across multiple paths simultaneously vice the current limitations of single or secondary paths. ADNS will reduce the rack unit (U) requirement from 81U to 54U and investigate the ability to reduce this Unit allocation for smaller Navy platforms. ADNS will provide greater security posture by encrypting each enclave, and securing the core via cipher text.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	PO	SSC:PAC/LANT	1.025	-		-		-		-	0.000	1.025	
Primary Hardware Development	C/CPFF	Northrop Grumman:McLean, Virginia	7.793	-		-		-		-	0.000	7.793	
Primary Hardware Development	C/CPFF	General Dynamics:Maryland	17.601	-		-		-		-	0.000	17.601	
Primary Hardware Development	C/CPFF	SRA:San Diego	0.016	-		-		-		-	0.000	0.016	
Primary Hardware Dev. - MALN Inc 2t	C/FFP	Boeing:Washington State	1.245	-		-		-		-	0.000	1.245	
Primary Hardware/Software	C/CPFF	Air Force:Various	2.078	-		-		-		-	0.000	2.078	
Primary Hardware/Software MALN Inc 1	WR	SSC:PAC	0.207	-		-		-		-	0.000	0.207	
Integration and Test -MALN Inc 1	WR	SSC:PAC	0.810	-		-		-		-	0.000	0.810	
Integration and Test - MALN Inc 2	WR	SSC:PAC	0.521	-		-		-		-	0.000	0.521	
Integration and Test	C/CPFF	VAR:Various	0.079	-		-		-		-	0.000	0.079	
Systems Engineering-ADNS	WR	SSC:PAC/LANT	22.114	0.275	Nov 2011	-		-		-	0.000	22.389	
Systems Engineering	Various	VAR:Various	5.172	-		-		-		-	0.000	5.172	
Systems Engineering	MIPR	CECOM (MITRE):New Jersey	0.585	-		-		-		-	0.000	0.585	
Systems Engineering-ADNS	WR	NUWC:Newport, RI	1.414	0.450	Dec 2011	-		-		-	0.000	1.864	
Prime Mission Product	PO	SSC:PAC/LANT	4.353	-		-		-		-	0.000	4.353	
Integration and Test-ADNS	WR	NUWC:Newport	0.821	0.341	Nov 2011	-		-		-	0.000	1.162	
Systems Engineering	C/CPFF	Boeing:Washington State	2.087	-		-		-		-	0.000	2.087	
Integration and Test-ADNS	WR	SSC:PAC/LANT	0.459	-		-		-		-	0.000	0.459	
Systems Engineering-ADNS	C/CPFF	Solute:San Diego	0.253	-		-		-		-	0.000	0.253	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204163N: <i>Fleet Tactical Development</i>	PROJECT 0725: <i>Communication Automation</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 - MALN Inc 1	WR	SSC:PAC	0.207	-		-		-		-	0.000	0.207	
System Engineering - MALN Inc 2	WR	SSC:PAC	0.717	-		-		-		-	0.000	0.717	
System Engineering - MALN Inc 1	SS/FPIF	Linquest:San Diego	0.536	-		-		-		-	0.000	0.536	
System Engineering - BFTN	WR	SSC:PAC	0.433	-		-		-		-	0.000	0.433	
Integration and Test - BFTN	C/FFP	COTF:Norfolk, VA	0.257	-		-		-		-	0.000	0.257	
Primary Hardware Dev.- MALN	WR	SSC:PAC	-	-		1.653	Nov 2012	-		1.653	0.000	1.653	
Primary Hardware/Software - MALN	C/FFP	MIT/Lincoln Lab:Lexington MA	-	-		7.024	Jan 2013	-		7.024	0.000	7.024	
System Engineering -MALN	WR	VAR:Various	-	-		3.503	Nov 2012	-		3.503	0.000	3.503	
System Engineering - MALN	C/CPFF	VAR:Various	-	-		1.650	Jan 2013	-		1.650	0.000	1.650	
Subtotal			70.783	1.066		13.830		-		13.830	0.000	85.679	

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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/LANT	0.160	-		-		-		-	0.000	0.160	
Software Development	Various	VAR:Various	7.250	-		-		-		-	0.000	7.250	
Integrated Logistics Support- ADNS	WR	SSC:PAC/LANT	0.138	-		-		-		-	0.000	0.138	
Integrated Logistics Support	Various	VAR:Various	1.150	-		-		-		-	0.000	1.150	
Documentation	Various	VAR:Various	0.506	-		-		-		-	0.000	0.506	
Technical Data	Various	VAR:Various	0.500	-		-		-		-	0.000	0.500	
Studies and Analysis	WR	SSC:PAC/LANT	0.960	-		-		-		-	0.000	0.960	
Documentation- MALN Inc 1	WR	SSC:PAC	0.200	-		-		-		-	0.000	0.200	
Studies and Analysis - BFTN	WR	SSC:PAC	0.048	-		-		-		-	0.000	0.048	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204163N: <i>Fleet Tactical Development</i>	PROJECT 0725: <i>Communication Automation</i>
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Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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			10.912	-		-		-		-	0.000	10.912	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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-ADNS	WR	SSC:PAC/LANT	6.659	-		-		-		-	0.000	6.659	
Developmental Test & Evaluation-ADNS	MIPR	JTIC:Fort Huachuca, AZ	0.374	0.075	Nov 2011	-		-		-	0.000	0.449	
Operational Test & Evaluation-ADNS	WR	COMOPTEVOR:Norfolk, VA	1.377	0.176	Nov 2011	-		-		-	0.000	1.553	
Operational Test & Evaluation	Various	VAR:Various	4.955	-		-		-		-	0.000	4.955	
Developmental Test & Evaluation-MALN INC I	WR	SSC:PAC	0.148	-		-		-		-	0.000	0.148	
Developmental Test & Evaluation-MALN INC II	WR	SSC:PAC	0.604	-		-		-		-	0.000	0.604	
Subtotal			14.117	0.251		-		-		-	0.000	14.368	

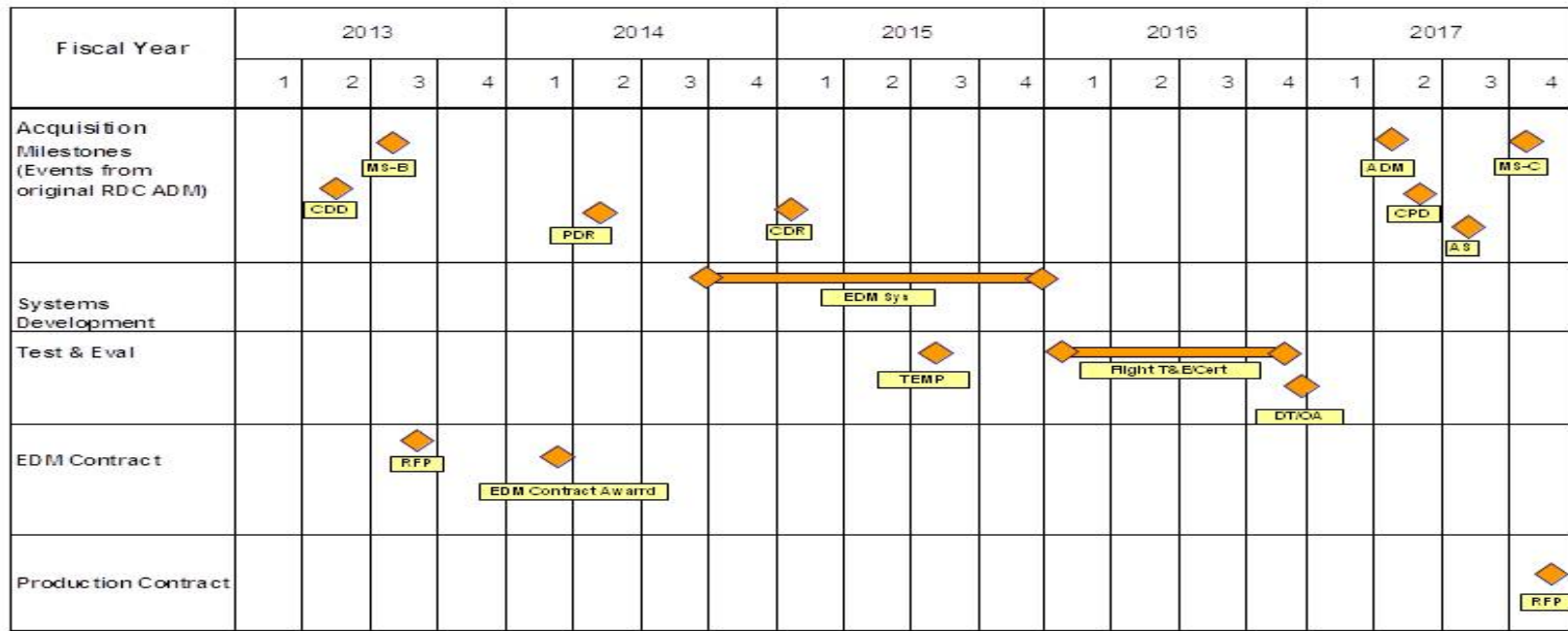
Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Contractor Engineering Support	Various	VAR:Various	0.546	-		-		-		-	0.000	0.546	
Government Engineering Support	WR	SSC:PAC/LANT	0.817	-		-		-		-	0.000	0.817	
Program Management Support	C/CPAF	VAR:Various	8.363	-		-		-		-	0.000	8.363	
Program Management Support- MALN Inc 1and 2	C/FPIF	BAH:San Diego, CA	0.724	-		-		-		-	0.000	0.724	

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0204163N: <i>Fleet Tactical Development</i>	PROJECT 0725: <i>Communication Automation</i>

MALN 0725

Program High Level Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
MALN				
MALN: Capability Development Document	2	2013	2	2013
MALN: Milestone B	3	2013	3	2013
MALN: Request for Proposal (RFP)	3	2013	3	2013
MALN: Preliminary Design Review (PDR)	2	2014	2	2014
MALN: Capability Design Review(CDR)	1	2015	1	2015
MALN: Capability Production Document (CPD)	2	2017	2	2017
MALN: Milestone C	4	2017	4	2017
MALN: EDM System Development	4	2014	4	2015
MALN: Test and Evaluation Master Plan	3	2015	3	2015
MALN: Flight Test and Evaluation/Certification	1	2016	4	2016
MALN: Developmental Testing/Operational Assessment	4	2016	4	2016
MALN: EDM Contract Award	1	2014	1	2014

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204163N: <i>Fleet Tactical Development</i>	PROJECT 1083: <i>Shore To Ship Com System</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
1083: <i>Shore To Ship Com System</i>	19.075	-	-	-	-	-	-	-	-	0.000	19.075
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

Beginning in FY12, the efforts in this project are funded in PE 0101402N.

A. Mission Description and Budget Item Justification

This program develops communication system elements which provide positive Nuclear Command, Control and Communications (NC3) from originator to shooter. This portfolio of programs provides design and development for shore-to-ship transmit and receive communications systems.

The Low Band Universal Communications System (LBUCS) is the modernization program that will upgrade the Transmit and Receive subsystems of the Fixed Submarine Broadcast System (FSBS) which are approaching their operational end of life. LBUCS will ensure operational capability through the Very Low Frequency (VLF) architecture by providing system life extension and flexibility of submarine broadcast traffic to the submarine in stealth posture. The flexibility includes enhanced throughput and anti-jam capability, ensuring more operational products are delivered to a submarine without risking mast exposure. The flexibility further includes simplified shore architecture to maintain capability while maximizing use of shore nodes (Broadcast Keying Sites). LBUCS also provides an upgrade to the VLF receive system to ensure continued compliance with Nuclear Technical Performance Criteria.

The Nuclear Command, Control and Communications (NC3) Long-Term Solution (LTS) will replace the shore-based, nuclear command and control (NC2) message dissemination infrastructure of the NC3 Hybrid Solution while addressing capability gaps identified in the NC3 LTS Capability Based Analysis. The mission of the NC3 LTS is to provide a reliable, secure, timely and robust messaging capability between Senior Leadership (The President of the United States, Secretary of Defense, and Chairman of the Joint Chiefs of Staff), Combatant Commanders and United States nuclear force elements. Specifically, the NC3 LTS shall support the dissemination of Emergency Action Messages and other NC2 messages.

The Strategic Communications Assessment Program /Continued Evaluation Program provides constant assessment of the effectiveness of the end-to-end Nuclear Command and Control network and analysis of system performance in various mission locations.

Concept Development/System Planning provides Network Enabled Operation (NEO) that addresses Allied interoperability issues for submarine communications in an Internet Protocol (IP) environment. As new technologies are realized, coalition architectures are developed and tested to ensure continued interoperability. Concept Development/System Planning also provides for the modeling of unique Very Low Frequency/Low Frequency (VLF/LF) submarine communications which include large physical shore broadcast antennas and underwater depth penetration studies. The results of Concept Development/System Planning are reflected in future Broadcast Control Authority /Operational Control planning tools. Technologies to improve high voltage insulators, helix house bushings and antenna components used in the Fixed VLF transmit systems are evaluated and tested through the High Voltage Improvement Program. Development of Information Assurance solutions for the Broadcast Control Authority (BCA) and Submarine Operating Authority Wide Area Network are being investigated to mitigate vulnerability concerns.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204163N: <i>Fleet Tactical Development</i>	PROJECT 1083: <i>Shore To Ship Com System</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
Title: Low Band Universal Communication System (LBUCS) FY 2011 Accomplishments: -Completed Critical Design Review (CDR) for transmit terminal. -Completed draft Capabilities Production Document (CPD). -Commenced formal routing through Joint C4I Program Assessment Tool-Empowered (JCPAT-E). -Continued development of acquisition documentation for Milestone C. -Continued development of Information Support Plan (ISP) for transmit terminal. -Continued Production Representative Article development.		Articles: 6.359 0	-	-
Title: Nuclear Command, Control, Communications Long Term Solution (NC3 LTS) FY 2011 Accomplishments: -Completed the Capabilities Development Document (CDD). -Continued development of the Test and Evaluation Master Plan (TEMP). -Continued preparation of Milestone B acquisition documentation. -Based on updated acquisition and technical information, continued development of the Request for Proposal (RFP) and Systems Performance Specification (SPS).		Articles: 7.402 0	-	-
Title: Strategic Communications Assessment Program (SCAP)/Continuing Evaluation Program (CEP) FY 2011 Accomplishments: -Conducted mission analysis of E-6B Mercury aircraft transmission and Ship Submersible Ballistic Nuclear Submarine (SSBNs) Emergency Action Message (EAM) reception for all SSBN patrols. -Provided reports on performance, adherence to delivery time requirements and shortfalls.		Articles: 3.600 0	-	-
Title: Concept Development/Systems Planning FY 2011 Accomplishments: -Conducted US/UK developmental testing of the Integrated Digital Network Exchange (IDNX) to validate Network Enabled Operations (NEO) interoperability concepts.		Articles: 0.850 0	-	-
Title: High Voltage Improvement Program FY 2011 Accomplishments:		Articles: 0.486 0	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204163N: <i>Fleet Tactical Development</i>	PROJECT 1083: <i>Shore To Ship Com System</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
<p><i>FY 2011 Accomplishments:</i></p> <ul style="list-style-type: none"> -Completed Electrically Small Antenna Project. -Continued dynamic tuning effort at Edgar Beauchamp High Voltage Test Facility. -Completed examination of nanocrystalline ferrites, to reduce the loss and size of the VLF/LF Helix House enclosure. -Commenced examination of partial-discharge for early detection of Helix House issues. -Continued examination of outdoor Helix House effort. -Commenced the examination of new ferrites for use in dynamic tuning elements for VLF transmit facilities, with the goal of lowering shore antenna frequencies allowing for greater broadcast signal in seawater depth penetration. -Commenced the examination of aging laminated wood used in VLF/LF Helix Houses. 			
<p><i>Title:</i> Broadcast Control Authority</p> <p align="right"><i>Articles:</i></p>	0.378 0	-	-
<p><i>FY 2011 Accomplishments:</i></p> <ul style="list-style-type: none"> -Continued development of water space management and messaging automation support tools. -Tools were integrated into Submarine Operation Authority (SUBOPAETH) toolset and delivered to the fleet. 			
Accomplishments/Planned Programs Subtotals	19.075	-	-

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

D. Acquisition Strategy

Low Band Universal Communications System (LBUCS): LBUCS is the modernization program that will upgrade the Transmit and Receive subsystems of the Fixed Submarine Broadcast System which are approaching their operational end of life. A cost plus incentive fee contract was awarded for Transmit subsystem development in 4Q FY09 with three sequential fixed price options Contract Line Item Numbers for production and deployment. The development of LBUCS Receive will commence in FY13.

The Nuclear Command, Control and Communications Long Term Solution (NC3 LTS): NC3 LTS will provide accurate and reliable delivery of time-critical messages for the nuclear forces by developing a Dedicated IP Network utilizing Defense Information Systems Network circuits. Milestone B for the program is projected in 2QFY13 with Milestone C occurring in 3QFY17. Contract planning activities commenced in 4QFY09, leading to a Request for Proposal release in 2QFY12 and corresponding contract award in 3QFY13. Full Operational Capability is expected in 4QFY19.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204163N: <i>Fleet Tactical Development</i>	PROJECT 1083: <i>Shore To Ship Com System</i>

E. Performance Metrics

LBUCS: Complete LBUCS Transmit Developmental Testing (DT) and Operational Assessment (OA). Achieve LBUCS Transmit Milestone C. Complete LBUCS Receive Preliminary Design Review (PDR) and Critical Design Review (CDR).

NC3 LTS: Complete Milestone B. Award contract for system design and development.

Strategic Communications Assessment Program (SCAP)/Continuing Evaluation Program (CEP): Delivery of Submersible Ballistic Nuclear Submarine (SSBN) patrol reports.

Concept Development: Delivery of final Network Enabled Operations (NEO) report. Assessment report of US/UK Very Low Frequency (VLF) performance requirements and recommendation of best VLF concepts to pursue.

High Voltage Improvement Program (HVIP): Continue examination of aging for multi-conductor High-Q inductor cable. Commence examination of innovative lighting methods for high voltage VLF/LF towers.

Broadcast Control Authority: Delivery of design options to incorporate Information Assurance (IA) capability.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204228N: <i>Surface Support</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	-	3.377	4.171	-	4.171	2.963	2.756	2.357	2.397	Continuing	Continuing
3311: <i>Navigation Systems</i>	-	3.377	4.171	-	4.171	2.963	2.756	2.357	2.397	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Surface Support RDT&E funding will be used for the research, design, development, integration testing, and documentation of a new AN/WSN-7 Inertial Measuring Unit (IMU) to support the Ballistic Missile Defense (BMD) mission. The program will implement systems engineering processes to identify specific BMD performance requirements, investigate major navigation system error sources, define new IMU functions, research new Inertial Navigation System (INS) technologies, algorithms, and techniques to improve system performance, conduct analyses of alternatives, create preliminary and final design concepts, develop new hardware components and associated software, and conduct land based and shipboard testing.

The AN/WSN-7(V) RLG is a legacy, 1980's design that was first installed in 1998 and is now obsolete. The design is reaching its limit with respect to providing the high-accuracy navigation solution required to meet known and emerging mission requirements. Navigator of the Navy's Vision 2025 identifies emergent requirements with respect to improved navigation in a GPS denied environment, littoral warfare, mine countermeasures, and manned and unmanned vehicle operations that cannot be met with existing systems. The AN/WSN-7(V) Ring Laser Gyro Navigator (RLGN) system is a self-contained inertial navigator designed for U.S. Navy surface ships. The RLG employs an Inertial Measuring Unit (IMU) with three single-axis ring laser gyros that allow the system to provide continuous and automatic data outputs of the ship's geographic position (latitude, longitude), horizontal and vertical linear velocity (V_e, V_n, V_v), attitude (heading, roll, and pitch) and attitude rates. The RLG provides mission critical ship's position and attitude data to shipboard sensors (such as radars), combat systems, gun and missile systems. The RLG uses data from the Global Positioning System (GPS) to periodically update (i.e., reset) its position and internal clock. The RLG is the ship's primary position source in absence of GPS.

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	-	3.377	4.173	-	4.173
Current President's Budget	-	3.377	4.171	-	4.171
Total Adjustments	-	-	-0.002	-	-0.002
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	-	-	-0.002	-	-0.002

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204228N: <i>Surface Support</i>	PROJECT 3311: <i>Navigation Systems</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
3311: <i>Navigation Systems</i>	-	3.377	4.171	-	4.171	2.963	2.756	2.357	2.397	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Surface Support RDT&E funding will be used for the research, design, development, integration testing, and documentation of a new AN/WSN-7 Inertial Measuring Unit (IMU) to support the Ballistic Missile Defense (BMD) mission. The program will implement systems engineering processes to identify specific BMD performance requirements, investigate major navigation system error sources, define new IMU functions, research new INS technologies, algorithms, and techniques to improve system performance, conduct analyses of alternatives, create preliminary and final design concepts, develop new hardware components and associated software, and conduct land based and shipboard testing.

The AN/WSN-7(V) RLGN is a legacy, 1980's design that was first installed in 1998 and is now obsolete. The design is reaching its limit with respect to providing the high-accuracy navigation solution required to meet known and emerging mission requirements. Navigator of the Navy's Vision 2025 identifies emergent requirements with respect to improved navigation in a GPS denied environment, littoral warfare, mine countermeasures, and manned and unmanned vehicle operations that cannot be met with existing systems. The AN/WSN-7(V) Ring Laser Gyro Navigator (RLGN) system is a self-contained inertial navigator designed for U.S. Navy surface ships. The RLGN employs an Inertial Measuring Unit (IMU) with three single-axis ring laser gyros that allow the system to provide continuous and automatic data outputs of the ship's geographic position (latitude, longitude), horizontal and vertical linear velocity (V_e, V_n, V_v), attitude (heading, roll, and pitch) and attitude rates. The RLGN provides mission critical ship's position and attitude data to shipboard sensors (such as radars), combat systems, gun and missile systems. The RLGN uses data from the Global Positioning System (GPS) to periodically update (i.e., reset) its position and internal clock. The RLGN is the ship's primary position source in absence of GPS.

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

	FY 2011	FY 2012	FY 2013
Title: Systems Engineering	-	3.377	4.171
Articles:		0	0
FY 2012 Plans: Assess current AN/WSN-7(V) design, performance, and support gaps. Based on Request For Information/Request For Proposal (RFI/RFP) responses, identify modernization solutions and evaluate technology readiness levels.			
FY 2013 Plans: Develop an Interface Design Specification for the WSN-7(V) processor/WSN-7(V) sensor interface. Develop the ECDU hardware/software design for the updated WSN-7 architecture. Perform Modeling and Simulation.			
Accomplishments/Planned Programs Subtotals	-	3.377	4.171

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204228N: <i>Surface Support</i>	PROJECT 3311: <i>Navigation Systems</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPN/0670: <i>Other Navigation</i>	23.042	20.582	23.392	0.000	23.392	28.411	27.757	29.159	29.648	0.000	220.571

D. Acquisition Strategy

Procurement of AN/WSN-7 modernization upgrades planned to begin in FY14.

E. Performance Metrics

FY12:

- AN/WSN-7(V) design, performance, and support gap analysis.
- Based on Request For Information/Request For Proposal (RFI/RFP) responses, identify modernization solutions.
- Technology readiness level evaluations.

FY13:

- Interface Design Specification for the WSN-7(V) processor/WSN-7(V) sensor interface.
- Enhanced Control Display Unit (ECDU) hardware/software design for the updated WSN-7 architecture.
- Preliminary Design Review for the AN/WSN-7(V) sensor.
- RFP for the AN/WSN-7(V) sensor.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204228N: <i>Surface Support</i>	PROJECT 3311: <i>Navigation Systems</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	SPAWAR Atlantic:Little Creek, VA	-	0.827	Feb 2012	1.032	Oct 2012	-		1.032	0.000	1.859	
Systems Engineering	C/CPFF	Penn State/ ARL:Warminster, PA	-	0.250	Feb 2012	0.312	Oct 2012	-		0.312	0.000	0.562	
Systems Engineering	C/CPFF	Northrop Grumman Sys Corp:Charlottesville, VA	-	0.800	Feb 2012	1.000	Oct 2012	-		1.000	0.000	1.800	
Systems Engineering/Design	WR	SPAWAR, Atlantic:Little Creek, VA	-	0.200	Feb 2012	0.250	Oct 2012	-		0.250	0.000	0.450	
Systems Engineering/Design	C/CPFF	Penn State/ ARL:Warminster, PA	-	0.200	Feb 2012	0.250	Oct 2012	-		0.250	0.000	0.450	
Systems Engineering/Design	C/CPFF	Northrop Grumman Sys Corp:Charlottesville, VA	-	1.000	Apr 2012	1.202	Apr 2013	-		1.202	0.000	2.202	
Subtotal			-	3.277		4.046		-		4.046	0.000	7.323	

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	BAH/Tech Marine:Wasington, DC	-	0.100	Feb 2012	0.125	Dec 2012	-		0.125	0.000	0.225	
Subtotal			-	0.100		0.125		-		0.125	0.000	0.225	

	Total Prior Years Cost	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		-	3.377	4.171	-	4.171	0.000	7.548

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204228N: <i>Surface Support</i>	PROJECT 3311: <i>Navigation Systems</i>
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	FY12				FY13				FY14				FY15				FY16				FY17			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Requirements Definition		△		△																				
Technical Requirements Document		△			△																			
Interface Design Specification					△		△																	
ECDU hardware/software design					△			△																
Initial Architectural Design			△				△																	
Final Architectural Design							△		△															
Modeling & Simulation					△			△																
Coding & Testing									△			△												
Limited Rate Initial Production									△			△												
Integration/LBES Testing													△			△								
Environmental Qualification Testing														△		△								
Technical Evaluation														△		△								
Operational Testing																			△		△			
Follow-on Development/Testing																					△			

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204228N: <i>Surface Support</i>	PROJECT 3311: <i>Navigation Systems</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 3311				
Requirements Definition	2	2012	4	2012
Technical Requirements Document	3	2012	1	2013
Interface Design Specification	2	2013	3	2013
Enhanced Control Display Unit (ECDU) Hardware/Software Design	2	2013	1	2014
Initial Architectural Design	4	2012	3	2013
Final Architectural Design	4	2013	2	2014
Modeling & Simulation	2	2013	2	2014
Coding & Testing	3	2014	1	2015
Low Rate Initial Production	2	2014	1	2015
Integration/Land Based Engineering Site (LBES) Testing	2	2015	1	2016
Environmental Qualification Testing	4	2015	1	2016
Technical Evaluation	2	2016	3	2016
Operational Testing	4	2016	1	2017
Follow-on Development/Testing	2	2017	4	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204229N: <i>Tomahawk Mssn Planning Ctr</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	10.352	8.819	11.265	-	11.265	4.626	4.769	4.903	5.001	Continuing	Continuing
0545: <i>TOMAHAWK</i>	10.352	8.819	11.265	-	11.265	4.626	4.769	4.903	5.001	Continuing	Continuing

A. Mission Description and Budget Item Justification

Includes RDT&E funds for development of the Tomahawk encompassing Tomahawk Land-Attack Missile (TLAM) upgrades, Tactical Tomahawk Weapons Controls System, Tomahawk Command and Control System upgrades and other missile system improvements. The Tomahawk Weapons System provides a Tomahawk cruise missile attack capability against fixed and mobile targets. The Tomahawk Land-Attack missile can be fitted with either Conventional unitary warhead (TLAM/C), Nuclear warhead (TLAM/N) or submunition Dispenser (TLAM/D). Tomahawk is capable of being deployed from both submarines and surface ships. Launched from mobile, sea-based platforms, the land attack variant will significantly increase the total capability of joint forces.

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	10.587	8.819	8.616	-	8.616
Current President's Budget	10.352	8.819	11.265	-	11.265
Total Adjustments	-0.235	-	2.649	-	2.649
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.181	-			
• Program Adjustments	-	-	2.632	-	2.632
• Rate/Misc Adjustments	-	-	0.017	-	0.017
• Congressional General Reductions Adjustments	-0.054	-	-	-	-

Change Summary Explanation

Technical: Not applicable.

Schedule: Developmental Test/Operational Test changed to Integrated Test Post Milestone C - Phase F. - Correcting error to provide an accurate Milestone.

Tactical Tomahawk Weapons Control System V5.4.1 Sys Test Readiness Review schedule changed from 1 Quarter (Qtr) 2012 to 2 Qtr 2013 - End 2 Qtr 2013.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204229N: <i>Tomahawk Mssn Planning Ctr</i>	PROJECT 0545: <i>TOMAHAWK</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
0545: <i>TOMAHAWK</i>	10.352	8.819	11.265	-	11.265	4.626	4.769	4.903	5.001	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Tomahawk Weapons System (TWS) provides a Tomahawk cruise missile attack capability against fixed and mobile targets. This program ensures that the TWS exploits state-of-the-art technology to preserve the efficiency of this proven weapon system, and includes all missile development, mission planning system development, and submarine and surface ship weapons control system development.

The Tactical Tomahawk All-Up-Round Block IV missile is a comprehensive spiral baseline upgrade to the TWS that provides the tactical commander a quick reaction response capability as well as improved flexibility, increased accuracy and higher lethality. A five-year multi-year (FY04-FY08) production contract was awarded in August 2004 for the production of up to 2200 Block IV Tomahawk missiles. The essential upgrades of the Block IV missile are: improved guidance, navigation, control and mission computer two-way satellite communications (SATCOM), and a lower production cost as compared to the Block III missile. Block IV provides a Ultra High Frequency SATCOM data link to enable the missile to receive in-flight mission modification messages, to transfer health and status messages and to broadcast Battle Damage Indication messages. Block IV also includes a high anti-jam Global Positioning System receiver, navigation improvements and associated antenna systems. The Tomahawk Program also includes development of continuing advances identified as spiral development under the Tomahawk Baseline IV Operational Requirements Document, to include development of the Joint Multiple Effects Warhead System/Joint Capability Technology Demonstration.

Under the umbrella of the Theater Mission Planning Center (TMPC), the Tomahawk Command and Control System is the mission planning segment of the Tomahawk Weapon System that provides systems for the precision targeting, route planning, mission distribution, and strike management of Tomahawk cruise missile missions from sites located ashore and afloat. TMPC optimizes all aspects of the Tomahawk missile mission to successfully engage a target and has evolved into five scalable configurations: Cruise Missile Support Activities (CMSA) (2), Tomahawk Strike Mission Planning Cells (TSMPC) (3), Carriers (11), Firing Units (81), Command & Control Nodes (11), Labs (6), & Training Classrooms (6), for a total of 125 sites. A smaller Tactical Tomahawk Command and Control Systems (TC2S) version is being fielded on Carrier Vessels, Nuclear to support deployed Strike Group Commanders. Systems fielded at the CMSAs and TSMPCs provide mission planning and employment support information for conventional TLAM, including the distribution of mission data and command information essential to TLAM employment via the Mission Distribution System and associated communications infrastructure (CMSAs are the only organizations that can support Tomahawk Land Attack Missile/ Nuclear. Development of Tactical Tomahawk capabilities in TMPC/TC2S includes software development, integration, test, and delivery, including support for training development, installation planning, and simulation/model development required by Commander, Operational Test and Evaluation Force. This project also includes development related to national and tactical imagery architectures, as well as software development to decrease mission-planning time and increase the quality and accuracy of each mission for Block III and IV TLAM.

The Tomahawk Weapons Control System provides launch capability for surface and submarine platforms. Development of the Tactical Tomahawk Weapons Control System provides a common architecture to launch the Tactical Tomahawk Block IV and all variants in inventory. Development of upgrades to the Tactical Tomahawk Weapons Control System is required to meet the Department of Defense Information Technology Standards Registry, to meet FORCEnet compliance and be Internet

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204229N: <i>Tomahawk Msn Planning Ctr</i>	PROJECT 0545: <i>TOMAHAWK</i>
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Protocol Version 6 ready in order to remain interoperable within the Joint Service Architecture and to retain weapons system viability and usability for our Sailors. These efforts provide battle-group tactical flexibility and responsiveness while maximizing Tomahawk Weapons System wartime capability.

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

	FY 2011	FY 2012	FY 2013
<p>Title: Tactical Tomahawk All-Up-Round (AUR)</p> <p align="right">Articles:</p> <p>Description: Achieve Selective Availability Anti-Spoofing Module (SAASM) Full Operational Capability (FOC), and completion of the cooperatively funded United States Navy/United Kingdom Joint Multiple Effects Warhead System/Joint Capability Technology Demonstration (JMEWS/JCTD) multi-stage warhead technical demonstration. Include significant research and analysis of the worldwide target set capability gaps - to include Hard and Buried Targets (HDBT) and Prompt Global Strike (PGS) Targets - for which JMEWS is a potential solution. In addition, NAWCAD also provides engine power data/analysis in order to determine reserve power available to power potential upgrades to the Tomahawk AUR, such as JMEWS.</p> <p>FY 2011 Accomplishments: FY11: Continued JMEWS/JCTD. Continued Ordnance Alteration/Temporary Alteration efforts in support of the SEAWOLF program.</p> <p>FY 2012 Plans: FY12: Complete JMEWS/JCTD. Complete AUR platform integration of SAASM. Achieve SAASM program FOC.</p> <p>FY 2013 Plans: Begin acquisition milestone documentation for the Joint Multiple Effects Warhead System (JMEWS) transition. Requirements, Concept of Operations (CONOPS), and software development for Image Navigation technology. Non-recurring engineering, systems and software development, integration and testing of capability upgrades to address emergent threats, UONS and ORD target set gap.</p>	<p>6.633</p> <p>0</p>	<p>5.320</p> <p>0</p>	<p>8.797</p> <p>0</p>
<p>Title: Tactical Tomahawk Weapons Control System (TTWCS)</p> <p align="right">Articles:</p> <p>Description: Continue TTWCS Viability activities and complete SAASM integration of TTWCS V5.4.0 in order to enter Follow on Test and Evaluation (FOT&E) for fleet release.</p> <p>FY 2011 Accomplishments: FY11: Completed SAASM integration of TTWCS v5.4.0. Completed Developmental Test/Operational Test, Technical Readiness Review for TTWCS v5.4.0. Complete code porting of reuse code from UNIX to LINUX. Continued work to reduce Human Computer Interface complexity. Perform development efforts in support of Guided Missile Destroyer (DDG)-113, and DDG-1000.</p> <p>FY 2012 Plans:</p>	<p>0.997</p> <p>0</p>	<p>0.990</p> <p>0</p>	<p>-</p>

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204229N: <i>Tomahawk Mssn Planning Ctr</i>	PROJECT 0545: <i>TOMAHAWK</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
FY12: Complete development of TTWCS viability and enter FOT&E. Prepare for Fleet Release of TTWCS v5.4.0. Continue development work on TTWCS v5.4.1 toward achievement of full TTWCS viability, and launch platform integration on platforms existing and in development.			
Title: Tactical Tomahawk Command and Control Systems	2.722	2.509	2.468
Articles:	0	0	0
Description: Development and incorporation of new capabilities in Tomahawk Command and Control systems necessary for the employment of Tactical Tomahawk. Imagery upgrades to Tomahawk Command and Control System. Continue Test & Evaluation support for Tomahawk Command and Control Systems.			
FY 2011 Accomplishments: FY11 - Continued Tomahawk Land Attack Missile (TLAM) navigation and accuracy and weapons delivery Circular Error Probable (CEP) studies and assessments necessary to ensure the Tomahawk Weapons System is properly employed; continued evaluation of Tactical Tomahawk Command and Control Systems (TC2S) design process to ensure Tactical Tomahawk missile performance characteristics are adequately modeled in TC2S. Continued evaluation of imagery formats resulting from National Geospatial Intelligence Agency (NGA) mandated architectural changes.			
FY 2012 Plans: FY12 - Continue TLAM navigation and accuracy and weapons delivery CEP studies and assessments necessary to ensure the Tomahawk Weapons System (TWS) is properly employed; continue evaluation of TC2S design process to ensure Tactical Tomahawk missile performance characteristics are adequately modeled in TC2S. Continue evaluation of imagery formats resulting from NGA mandated architectural changes.			
FY 2013 Plans: Continue TLAM navigation and accuracy and weapons delivery CEP studies and assessments necessary to ensure the TWS is properly employed; continue evaluation of TC2S design process to ensure Tactical Tomahawk missile performance characteristics are adequately modeled in TC2S. Continue evaluation of imagery formats resulting from NGA mandated architectural changes.			
Accomplishments/Planned Programs Subtotals	10.352	8.819	11.265

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2013</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u>	
			<u>Base</u>	<u>OCO</u>	<u>Total</u>					<u>Complete</u>	<u>Total Cost</u>
• WPN/2101: <i>Tomahawk</i>	596.674	297.606	308.970	0.000	308.970	322.960	329.184	336.608	342.577	1,170.571	14,855.749
• OPN/5253: <i>Tomahawk Support Equip</i>	88.217	70.261	77.767	0.000	77.767	69.449	61.743	61.846	62.984	838.523	1,528.090

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204229N: <i>Tomahawk Mssn Planning Ctr</i>	PROJECT 0545: <i>TOMAHAWK</i>
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C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• OPN/9020: <i>Initial and Vendor Direct Spares</i>	0.481	0.236	0.171	0.000	0.171	0.187	0.173	0.181	0.185	0.000	6.743

D. Acquisition Strategy

In 1998, the Tomahawk Baseline Improvement Program (TBIP) transitioned to the Tactical Tomahawk (Block IV) Program. This program is outlined in the Class Justification and Approval (CJ&A No. AIR-22448) signed by the Under Secretary of the Navy on 29 May 1998. The acquisition strategy was to transition the TBIP to Tactical Tomahawk. The Tactical Tomahawk development program was a cost-sharing contract between the Government and the Contractor to add capability to the missile. A multi-year full-rate production contract was awarded in August 2004 for FY 2004-2008 production. The FY09 through FY11 BLOCK IV Missile procurement strategy utilizes a FY 2009 annualized Firm Fixed Price contract, along with two fixed price option years for FY 2010 and FY 2011. FY 2009 through FY 2011 missile procurements have been exercised.

Research & Development technology demonstration capabilities (Multiple-Effects Warhead, Anti Surface Warfare) will be potentially introduced after successful qualification and testing. Complete Selective Availability Anti-Spoofing Module/Tactical Tomahawk Weapons Control System integration efforts.

E. Performance Metrics

The Navy seeks to improve the Tomahawk cruise missile attack capability against land targets through research and development done predominantly through defense contractors and government field activities.

Examples in the area of the All-Up-Round include development of candidate warheads that will enhance weapon ability to cover all assigned target types, provide a quick reaction response capability for the weapon system, and improved guidance, navigation, control, mission computer two-way satellite communications, and a high anti-jam Global Positioning System receiver all in line with state of the art technology.

In the area of the Weapons Control System, research and development is performed to ensure viability and usability of the system into the future, providing necessary upgrades to meet the Department of Defense Information Technology standards registry to comply with FORCEnet requirements and be Internet Protocol Version 6 ready to remain interoperable within Joint Service Architecture, in order to provide battle-group tactical flexibility and responsiveness needed to enable full wartime capability.

In the area of the Command and Control System, continue research and development in order to provide scalable configurations to deploy where and as needed to provide necessary command and control, development necessary to function with national and tactical imagery architectures, decrease mission planning time, and increase the quality and accuracy of each mission for the Tomahawk Weapons System.

All of these research and development efforts contribute to the Navy providing the very best weapon system to the war fighter to accomplish the combat mission.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204229N: <i>Tomahawk Mssn Planning Ctr</i>	PROJECT 0545: <i>TOMAHAWK</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 - AUR	C/CPFF	Raytheon Co.:Tucson, AZ	222.185	1.031	Jun 2012	-		-		-	7.764	230.980	230.980
Primary Hardware	C/CPFF	SSCI:Woburn, MA	-	-		2.124	Feb 2013	-		2.124	0.000	2.124	2.124
Systems Engineering - AUR	Reqn	NAVSEA:WNY, DC	30.037	0.275	Mar 2012	0.477	Feb 2013	-		0.477	0.650	31.439	
Prior Year cost no longer funded in FYDP	Various	Various:Various	2,405.912	-		-		-		-	0.000	2,405.912	
Subtotal			2,658.134	1.306		2.601		-		2.601	8.414	2,670.455	

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	NSWC:Dahlgren, VA	2.100	0.110	Feb 2012	0.127	Feb 2013	-		0.127	1.015	3.352	
Development Support - AUR	SS/CPFF	SAIC:San Diego, CA	4.277	0.718	Feb 2012	0.934	Feb 2013	-		0.934	3.325	9.254	9.254
Development Support - AUR	WR	Various:Various	1.776	0.110	Feb 2012	-		-		-	0.575	2.461	
Development Support - AUR	WR	NAWC:China Lake, CA	70.533	3.076	Feb 2012	4.800	Feb 2013	-		4.800	1.240	79.649	
Soft Dev-Mission Plan Sys TC2S	Reqn	NAVSEA:WNY, DC	21.345	1.113	Feb 2012	1.106	Feb 2013	-		1.106	6.720	30.284	
Soft Dev-Mission Plan Sys TC2S	Reqn	Navy Sys Mgt Act:VA	12.129	1.190	Feb 2012	1.367	Feb 2013	-		1.367	6.223	20.909	
Soft Dev-Mission Plan Sys	WR	NAWC:Pax River, MD*	0.352	0.206	Feb 2012	0.330	Feb 2013	-		0.330	0.720	1.608	
Soft Dev-Dev Weapons Control Sys	C/CPFF	Lockheed:Valley Forge, VA	106.545	0.990	Feb 2012	-		-		-	0.000	107.535	107.535
Prior Year cost no longer funded in FYDP	Various	Various:Various	122.404	-		-		-		-	0.000	122.404	
Subtotal			341.461	7.513		8.664		-		8.664	19.818	377.456	

Remarks
* Funding sent to NAWC, PAXRIV beginning in FY10.

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204229N: <i>Tomahawk Mssn Planning Ctr</i>	PROJECT 0545: <i>TOMAHAWK</i>
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Tomahawk Mission Planning Center	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017							
	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	TT SAASM Integr																															
Software Development	TT SAASM Integr																															
Hardware Development									TT P3I																							
									TT FRP																							
Reviews																																
Test and Evaluation																																
Technical Evaluation	TC2S 4.3 DT																															
Operational Evaluation					TC2S 5.0 DT/OT - III G																											
Production Milestones																																
Contract Awards																																
Deliveries																																

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204229N: <i>Tomahawk Mssn Planning Ctr</i>	PROJECT 0545: <i>TOMAHAWK</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Tomahawk Mission Planning Center				
Acquisition Milestones: Milestones: TTWCS V5.4.0 Full Operational Capability (FOC)	1	2012	1	2012
Acquisition Milestones: Milestones: Tactical Tomahawk Missile Integration FOC	2	2012	2	2012
Acquisition Milestones: Milestones: TC2S 4.3 FOC	3	2012	3	2012
Acquisition Milestones: Milestones: TC2S 5.0 FOC	2	2015	2	2015
Acquisition Milestones: Milestones: TTWCS V5.4.1 FOC	2	2015	2	2015
Systems Development: Software Development: Tactical Tomahawk (TT) SAASM Integration	1	2011	1	2012
Systems Development: Hardware Development: TT Preplanned Product Improvement (P3I)	1	2011	4	2017
Systems Development: Hardware Development: Tactical Tomahawk (TACTOM) Full Rate Production, annualized BLOCK IV missile procurements (FY 2010-FY2020)	1	2011	4	2017
Systems Development: Reviews: Tactical Tomahawk Weapon Control System (TTWCS) V5.4.0 Integrated Test Post Milestone C-Phase F (IT-CF) Technical Readiness Review (TRR)	3	2011	3	2011
Systems Development: Reviews: TTWCS V5.4.1 TRR	2	2013	2	2013
Systems Development: Reviews: TTWCS V5.4.1 IT-CF TRR	3	2014	3	2014
Test and Evaluation: Tomahawk Comand and Control System (TC2S) 4.3 DT	1	2011	1	2012
Test and Evaluation: TC2S 5.0 IT-CF- III G	1	2011	1	2015

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204311N: <i>Integrated Surveillance System</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	28.161	21.259	45.922	-	45.922	29.221	32.637	34.795	21.174	Continuing	Continuing
0344: <i>SUB AUXILIARIES</i>	-	-	2.998	-	2.998	1.007	11.994	13.991	-	0.000	29.990
0766.: <i>IUSS Detect/Classif System</i>	28.161	21.259	42.924	-	42.924	28.214	20.643	20.804	21.174	Continuing	Continuing

A. Mission Description and Budget Item Justification

This Program Element (PE) comprises two projects - 0766 and 0344. Project 0766 provides for Integrated Undersea Surveillance Systems (IUSS) Research and Development Projects under the Maritime Surveillance Systems (MSS) Program Office (PEO SUB PMS 485). IUSS provides the Navy with its primary means of submarine detection both nuclear and diesel. A portion of project 0766 (FSS) is classified, with details available at a higher classification level. Project 0344 funds the Shallow Water Surveillance System (SWSS) project to develop and demonstrate a deployable, medium endurance underwater sensor to detect and classify submarines specifically operating in shallow water areas.

The IUSS Research and Development project (0766) funds SURTASS Passive and SURTASS Low Frequency Active (LFA) developments. SURTASS provides the mobile, tactical arm of the Integrated Undersea Surveillance System, providing long range detection and cueing for tactical weapons platforms against both diesel and nuclear powered submarines. SURTASS LFA provides an active adjunct capability for IUSS passive and tactical sensors to assist in countering the quieter diesel and nuclear threats of the 1990s and beyond. The LFA tasks are directed at detection of slow quiet threats in harsh littoral waters.

In order to continue with reductions in life cycle costs and continue with system-wide consolidation, a short-term goal is to develop a common IUSS processor based on NAVSEA's Acoustic Rapid COTS Insertion (ARCI) program. The IUSS Integrated Common Processor (ICP) will have the capability to process and display data from all fixed and mobile underwater systems. The IUSS ICP will be used for all new system installations and replace the legacy systems as they reach end of life and require upgrading. Additionally, SURTASS has consolidated on the TB-29A Twin-line array, a variant of the Submarine TB-29A Long line array. This reduced the number of array variants employed by SURTASS from 3 to 1, and enabled development and logistics cost savings by leveraging off the submarine TB-29A program.

The Shallow Water Surveillance System (SWSS) project (0344) funds the development and demonstration of technology to enable a deployable, medium endurance underwater sensor to detect and classify submarines operating in shallow water areas of the world with sufficient timeliness and accuracy to permit re-acquisition of the submarine target using local tactical assets.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204311N: <i>Integrated Surveillance System</i>
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B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	23.464	21.259	21.534	-	21.534
Current President's Budget	28.161	21.259	45.922	-	45.922
Total Adjustments	4.697	-	24.388	-	24.388
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	4.838	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	-	-	24.404	-	24.404
• Rate/Misc Adjustments	-	-	-0.016	-	-0.016
• Congressional General Reductions Adjustments	-0.141	-	-	-	-

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204311N: <i>Integrated Surveillance System</i>	PROJECT 0344: <i>SUB AUXILIARIES</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
0344: <i>SUB AUXILIARIES</i>	-	-	2.998	-	2.998	1.007	11.994	13.991	-	0.000	29.990
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Shallow Water Surveillance System (SWSS) project (0344) funds the development and demonstration of technology to enable a deployable, medium endurance underwater sensor to detect and classify submarines operating in shallow water areas of the world with sufficient timeliness and accuracy to permit re-acquisition of the submarine target using local tactical assets.

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

	FY 2011	FY 2012	FY 2013
Title: SWSS	-	-	2.998
Articles:			0
FY 2013 Plans: SWSS Funding in FY13 will be used for required activities to enable program initiation in FY15, to include acquisition documentation development, system engineering trade studies and early risk reduction testing of component technologies.			
Accomplishments/Planned Programs Subtotals	-	-	2.998

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

N/A

D. Acquisition Strategy

TBD

E. Performance Metrics

Development of the requirements document for SWSS is one of the primary acquisition documents that will be developed starting in FY13. Performance metrics will either be directly stated in that document or will be derived through the system engineering process used to describe the system specifications.

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204311N: <i>Integrated Surveillance System</i>	PROJECT 0344: <i>SUB AUXILIARIES</i>

□

Fiscal Year	2011				2012				2013				2014				2015				2016				2017															
	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												
Documentation / System Engineering									█																															
System Development and subsystem testing																	█																							
System Demonstration																																								
Production																													█											

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204311N: <i>Integrated Surveillance System</i>	PROJECT 0344: <i>SUB AUXILIARIES</i>
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 0344				
Documentation / System Engineering	1	2013	4	2014
System Development and Subsystem Testing	1	2015	3	2016
System Demonstration	4	2016	4	2016
Production	1	2017	4	2017

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204311N: <i>Integrated Surveillance System</i>	PROJECT 0766.: <i>IUSS Detect/Classif System</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
0766.: <i>IUSS Detect/Classif System</i>	28.161	21.259	42.924	-	42.924	28.214	20.643	20.804	21.174	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note
The FSS portion of 0766 is classified with details available at a higher classification level.

A. Mission Description and Budget Item Justification

A. This project includes efforts for SURTASS. The SURTASS project comprises the mobile, tactical arm of the Integrated Undersea Surveillance System, providing long range detection and cueing for tactical weapons platforms against both diesel and nuclear powered submarines. SURTASS also provides the undersea surveillance necessary to support regional conflicts and sea-lane protection. SURTASS has experienced recent passive and active success against diesel submarines operating in shallow water. SURTASS is leveraging existing developments and reducing costs by using Non-Developmental Items and commercial hardware, supporting common Navy Undersea Warfare processing and towed array developments, and increasing operator efficiency through computer-aided detection and classification processing. SURTASS development efforts include: LFA improvements, common IUSS processing, twin-line array development and processing, improved detection and classification/passive automation to counter quieter threats, additional signal processing, integrated active and passive operations, improved Battle Group support, and improved information processing.

LFA provides an active adjunct capability for IUSS passive and tactical sensors to counter the quieter diesel and nuclear threats of the 1990s and beyond. The LFA tasks are directed at detection of slow, quiet threats in harsh littoral waters. Improvements include TL-29A/LFA integration enhancements, advanced waveforms for littoral/shallow water operations including Doppler sensitive waveforms, and processing algorithms to reduce clutter and reverberation false alarms in shallow water. The LFA task includes development and testing of a compact LFA transmit source array for SWATH-P ships, and upgrade of LFA processing capability in the IUSS Integrated Common Processing (ICP) architecture. The ICP is a derivative of the NAVSEA Submarine Acoustic Rapid COTS Insertion (ARCI) program, and is being augmented for IUSS requirements. Together, the LFA improvements, TL-29A, and the ICP support the SURTASS Active Improvement Program.

Functional improvements are delivered to the Fleet in software "builds", while hardware improvements are delivered through the Tech Insertion (TI) process. Software builds are based on the Advanced Processor Build (APB) process begun by the NAVSEA Submarine USW program. Each APB will introduce new capabilities into SURTASS systems including improved automation, normalizer techniques, adaptive beam forming, and display enhancements. SURTASS participates in the process by contributing algorithms for consideration, supplying peer group members for review of candidate algorithms, participating in test evolutions, and incorporating improved algorithms into operational systems. The TI process, modeled after the NAVSEA Submarine USW hardware improvement program, delivers processing technology improvements to platforms on roughly a 4-year cycle. Hardware upgrades for active and passive arrays and communications systems will also be provided during TI upgrades, but not on a regular planned development cycle as for the processing upgrades.

B. PEO SUB is involved with the development and maintenance of various IUSS systems. These systems include FDS, FDS-C, and SURTASS. The near-term goal is development of ICP, which will result in a single IUSS processor baseline, with minor maintenance efforts continuing on fielded systems. The existing system

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204311N: <i>Integrated Surveillance System</i>	PROJECT 0766.: <i>IUSS Detect/Classif System</i>
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architecture, signal processing, contact management, and reporting requirements will be evaluated as well as the requirements for future systems. The development of the ICP will take advantage of automation advancement, array technology improvements, along with IUSS, submarine, and surface USW system commonality. Additionally, a long term goal is to activate all IUSS sensors as part of a coordinated Active Improvement Program. The FSS portion of 0766 is classified with details available at a higher classification level.

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

	FY 2011	FY 2012	FY 2013
<p>Title: ASW Study</p> <p align="right">Articles:</p> <p>FY 2011 Accomplishments: Continue trade-offs and studies for Distributed/Netted System concept. Evaluate Autonomous Burial Vehicle (ABV) burial improvement concepts from other sources for possible incorporation in Shallow Water Surveillance System solution. Conduct Matched Field Processing (MFP) model validation, and develop model-based statistics of MFP in various tactically significant areas for Anti-Submarine Warfare. Continue development of Reeling Pop-up Buoy (RPuB) by implementing anti-fouling device with extended at sea endurance test.</p>	0.659 0	- -	- -
<p>Title: Compact Low Frequency Active</p> <p align="right">Articles:</p> <p>FY 2011 Accomplishments: Complete DT for CLFA/TL-29A/ICP. Continue development of product improvements and corrections associated with CLFA DT and LFA FOT&E. Conduct at-sea testing of product improvements. Conduct FOT&E for LFA/TL-29A/ICP.</p> <p>FY 2012 Plans: Conduct OT of CLFA/TL-29A/ICP. Continue development of product improvements and corrections associated with CLFA DT/OT and LFA FOT&E. Conduct at-sea testing of product improvements.</p> <p>FY 2013 Plans: Continue development of product improvements and corrections associated with CLFA DT/OT and LFA FOT&E. Conduct at-sea testing of product improvements.</p>	1.890 0	1.960 0	1.750 0
<p>Title: TB-29A/Twin-Line</p> <p align="right">Articles:</p> <p>FY 2011 Accomplishments: Continue development of connectionless array technologies and true fiber-optic arrays. Continue efforts to explore Twin-line variants of new submarine Long-line arrays for future application to SURTASS.</p>	1.889 0	1.848 0	1.750 0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204311N: <i>Integrated Surveillance System</i>	PROJECT 0766.: <i>IUSS Detect/Classif System</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
Continue development of fishing net mitigation approaches. FY 2012 Plans: Continue development of connectionless array technologies and true fiber-optic arrays. Continue efforts to explore Twin-line variants of new submarine Long-line arrays for future application to SURTASS. Continue development of fishing net mitigation approaches. FY 2013 Plans: Continue development of connectionless array technologies and true fiber-optic arrays. Continue efforts to explore Twin-line variants of new submarine Long-line arrays for future application to SURTASS. Continue development of fishing net mitigation approaches.				
Title: Integrated Common Processor (ICP)		13.333	12.136	11.018
		Articles: 0	0	0
FY 2011 Accomplishments: Continue development of new automation algorithms and techniques for addressing multi-array high beam count requirements. Continue development of Littoral LFA improvements. Continue tech refresh development in coordination with the Submarine Acoustic Rapid COTS Insertion (ARCI) Program Advanced Processing Build (APB) tech refresh. Began addressing processing improvement recommendations and deficiencies associated with CLFA DT and LFA FOT&E.				
FY 2012 Plans: Continue development of new automation algorithms and techniques for addressing multi-array high beam count requirements. Continue development of Littoral LFA improvements. Continue tech refresh development in coordination with the Submarine Acoustic Rapid COTS Insertion (ARCI) Program Advanced Processing Build (APB) tech refresh. Continue to address processing improvement recommendations and deficiencies associated with CLFA DT/OT and LFA FOT&E.				
FY 2013 Plans: Continue development of new automation algorithms and techniques for addressing multi-array high beam count requirements. Continue development of Littoral LFA improvements. Continue tech refresh development in coordination with the Submarine Acoustic Rapid COTS Insertion (ARCI) Program Advanced Processing Build (APB) tech refresh. Continue to address processing improvement recommendations and deficiencies associated with CLFA DT/OT and LFA FOT&E.				
Title: Classified Effort		10.390	5.315	28.406
		Articles: 0	0	0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204311N: <i>Integrated Surveillance System</i>	PROJECT 0766.: <i>IUSS Detect/Classif System</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Description: The FSS portion of 0766 is classified with details available at a higher classification level.			
FY 2011 Accomplishments: The FSS portion of 0766 is classified with details available at a higher classification level.			
FY 2012 Plans: The FSS portion of 0766 is classified with details available at a higher classification level.			
FY 2013 Plans: The FSS portion of 0766 is classified with details available at a higher classification level.			
Accomplishments/Planned Programs Subtotals	28.161	21.259	42.924

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

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• OPN/2237: <i>Surveillance Towed Array Sensor System</i>	8.422	25.547	2.774	0.000	2.774	1.906	2.408	2.449	2.491	0.000	139.531

D. Acquisition Strategy

FY 2010: T&E Milestones: CLFA/TL-29A/ICP DT.
 FY 2011: Engineering Milestones: ICP Tech Refresh.
 FY 2011: T&E Milestones: CLFA/TL-29A/ICP DT. LFA/TL-29A/ICP FOT&E.
 FY 2012: T&E Milestones: CLFA/TL-29A/ICP OT&E.
 The FSS portion of 0766 is classified with details available at a higher classification level.

E. Performance Metrics

Successfully achieve CLFA Initial Operational Capability. Successfully complete CLFA Operation Test Readiness Review. Successfully complete CLFA Developmental Test / Operational Test. Successful demonstration of required LFA/CLFA improvements capability. Successful transition of Submarine Advanced Processing Build (APB) functionality into IUSS products. Successful transition of net mitigation technologies into Towed Array baseline.
 The FSS portion of 0766 is classified with details available at a higher classification level.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204311N: <i>Integrated Surveillance System</i>	PROJECT 0766.: <i>IUSS Detect/Classif System</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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	
IUSS COMMON ARCHITECTURE	C/CPFF	LOCKHEED MARTIN:VA	8.132	7.215	Nov 2011	5.726	Nov 2012	-		5.726	Continuing	Continuing	Continuing
IUSS COMMON ARCHITECTURE	C/CPFF	APL/JHU:MD	0.525	0.525	Nov 2011	0.565	Nov 2012	-		0.565	Continuing	Continuing	Continuing
IUSS COMMON ARCHITECTURE	Various	VARIOUS:Not Specified	63.568	0.755	Nov 2011	0.790	Nov 2012	-		0.790	Continuing	Continuing	Continuing
ACTIVE IMPROVEMENT/CLFA/LFA	WR	NFESC:CA	0.398	0.447	Nov 2011	0.452	Nov 2012	-		0.452	Continuing	Continuing	Continuing
ACTIVE IMPROVEMENT/CLFA/LFA	WR	SSC PAC:CA	0.227	0.227	Nov 2011	0.226	Nov 2012	-		0.226	Continuing	Continuing	Continuing
ACTIVE IMPROVEMENT/CLFA/LFA	C/CPFF	APL/JHU:MD	0.375	0.375	Nov 2011	0.339	Nov 2012	-		0.339	Continuing	Continuing	Continuing
ACTIVE IMPROVEMENT/CLFA/LFA	Various	VARIOUS:Not Specified	116.529	0.323	Nov 2011	0.339	Nov 2012	-		0.339	Continuing	Continuing	Continuing
N74 ASW STUDY	WR	SSC PAC:CA	0.449	-	Nov 2011	-	Nov 2012	-		-	Continuing	Continuing	Continuing
N74 ASW STUDY	Various	VARIOUS:Not Specified	7.545	-	Nov 2011	-	Nov 2012	-		-	Continuing	Continuing	Continuing
ARRAY IMPROVEMENTS	C/CPFF	APL/JHU:VA	0.625	0.625	Nov 2011	0.677	Nov 2012	-		0.677	Continuing	Continuing	Continuing
ARRAY IMPROVEMENTS	WR	ADAPTIVE METHODS:VA	0.222	0.271	Nov 2011	0.229	Nov 2012	-		0.229	Continuing	Continuing	Continuing
ARRAY IMPROVEMENTS	Various	VARIOUS:Not Specified	8.100	0.365	Nov 2011	0.337	Nov 2012	-		0.337	Continuing	Continuing	Continuing
FSS - Classified	Various	TBD:Not Specified	11.535	5.315	Nov 2011	28.406	Nov 2012	-		28.406	0.000	45.256	
Subtotal			218.230	16.443		38.086		-		38.086			

Remarks
The FSS portion of 0766 is classified with details available at a higher classification level.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204311N: <i>Integrated Surveillance System</i>	PROJECT 0766.: <i>IUSS Detect/Classif System</i>
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Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
IUSS COMMON ARCHITECTURE	WR	SSC PAC:CA	1.707	1.511	Nov 2011	1.524	Nov 2012	-		1.524	Continuing	Continuing	Continuing
IUSS COMMON ARCHITECTURE	Various	VARIOUS:Not Specified	3.580	0.310	Nov 2011	0.314	Nov 2012	-		0.314	Continuing	Continuing	Continuing
ACTIVE IMPROVEMENTS/CLFA/LFA	WR	SSC PAC:CA	0.194	0.204	Nov 2011	0.194	Nov 2012	-		0.194	Continuing	Continuing	Continuing
ACTIVE IMPROVEMENTS/CLFA/LFA	Various	VARIOUS:Not Specified	7.207	0.090	Nov 2011	0.097	Nov 2012	-		0.097	Continuing	Continuing	Continuing
ARRAY IMPROVEMENTS	Various	VARIOUS:Not Specified	0.283	0.294	Nov 2011	0.290	Nov 2012	-		0.290	Continuing	Continuing	Continuing
Subtotal			12.971	2.409		2.419		-		2.419			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
IUSS COMMON ARCHITECTURE	C/CPFF	LOCKHEED MARTIN:VA	0.953	0.821	Nov 2011	0.823	Nov 2012	-		0.823	Continuing	Continuing	Continuing
IUSS COMMON ARCHITECTURE	Various	Not Specified:Not Specified	6.093	0.392	Nov 2011	0.395	Nov 2012	-		0.395	Continuing	Continuing	Continuing
ACTIVE IMPROVEMENTS/CLFA/LFA	WR	OPTEVFOR:Not Specified	0.125	0.125	Nov 2011	0.129	Nov 2012	-		0.129	Continuing	Continuing	Continuing
ACTIVE IMPROVEMENTS/CLFA/LFA	Various	Not Specified:Not Specified	20.602	0.071	Nov 2011	0.072	Nov 2012	-		0.072	Continuing	Continuing	Continuing
ARRAY IMPROVEMENTS	C/CPFF	APL/JHU:MD	0.189	0.196	Nov 2011	0.194	Nov 2012	-		0.194	Continuing	Continuing	Continuing
ARRAY IMPROVEMENTS	Various	Not Specified:Not Specified	2.568	-		-		-		-	Continuing	Continuing	Continuing
Subtotal			30.530	1.605		1.613		-		1.613			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

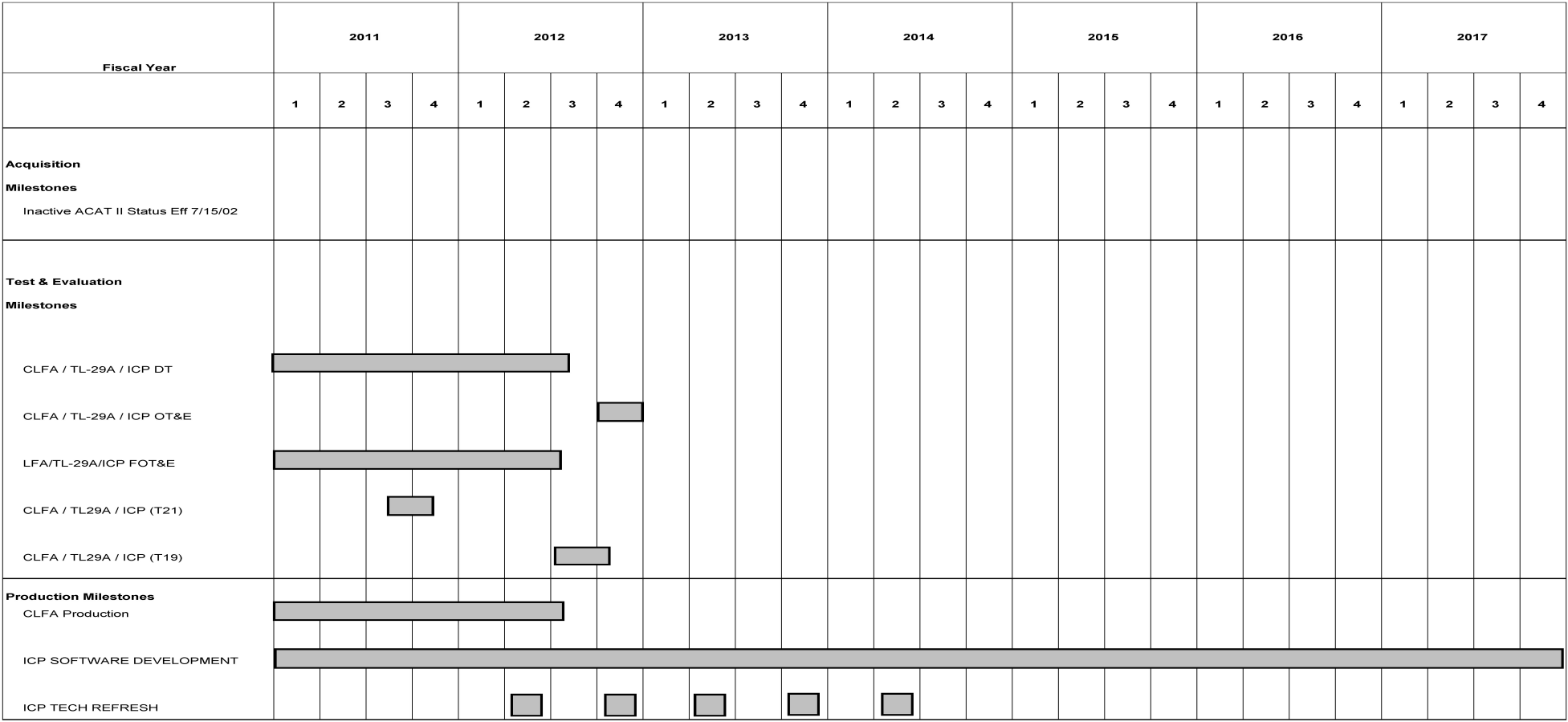
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204311N: <i>Integrated Surveillance System</i>	PROJECT 0766.: <i>IUSS Detect/Classif System</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
IUSS COMMON ARCHITECTURE	Various	VARIOUS:Not Specified	4.300	0.606	Nov 2011	0.613	Nov 2012	-		0.613	Continuing	Continuing	Continuing
ACTIVE IMPROVEMENTS/CLFA/LFA	Various	VARIOUS:Not Specified	15.412	0.098	Nov 2011	0.097	Nov 2012	-		0.097	Continuing	Continuing	Continuing
ARRAY IMPROVEMENTS	Various	VARIOUS:Not Specified	0.094	0.098	Nov 2011	0.096	Nov 2012	-		0.096	Continuing	Continuing	Continuing
Subtotal			19.806	0.802		0.806		-		0.806			
Project Cost Totals			281.537	21.259		42.924		-		42.924			

Remarks
The R3 and the R4 / R4A reflect the UNCLASSIFIED portion of the PE.

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204311N: <i>Integrated Surveillance System</i>
PROJECT 0766.: <i>IUSS Detect/Classif System</i>	



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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204311N: <i>Integrated Surveillance System</i>	PROJECT 0766.: <i>IUSS Detect/Classif System</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 0766.L24				
CLFA / TL-29A/ ICP DT	1	2011	3	2012
CLFA / TL-29A/ ICP OT & E	4	2012	1	2013
LFA / TL-29A/ ICP FOT & E	1	2011	3	2012
CLFA / TL29A / ICP (T21)	3	2011	4	2011
CLFA / TL29A / ICP (T19)	3	2012	4	2012
CLFA Production	1	2011	3	2012
ICP Software Development	1	2011	4	2017
ICP Tech Refresh	2	2012	2	2014

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				PE 0204413N: <i>Amphibious Tactical Supt Units</i>							
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	4.315	5.214	8.435	-	8.435	4.621	4.344	3.179	3.258	Continuing	Continuing
2231: <i>LCU Replacement</i>	4.315	5.214	8.435	-	8.435	4.621	4.344	3.179	3.258	Continuing	Continuing

A. Mission Description and Budget Item Justification

TECHNOLOGY TRANSITION: Provides for research efforts on Landing Craft Air Cushioned (LCAC) Future Naval Capabilities to transfer technologies to functional uses on current LCACs. Current technology initiatives include the following: sustainability/readiness/performance analysis; LCAC communications improvements; development and qualification of Full Authority Digital Engine Controller (FADEC) for LCAC engines; new torque meter design for ETF40B engines and fuel efficiency trials; active shaft balancing system; fuel efficiency initiatives.

Landing Craft, Utility Replacement (LCU(R)) Capabilities Based Assessment (CBA) will define mission, identify and evaluate capabilities, identify and assess potential solutions, and evaluate operational risk in order to provide recommendations for validation authority for high speed, high capacity assault craft replacement.

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	4.357	5.214	5.571	-	5.571
Current President's Budget	4.315	5.214	8.435	-	8.435
Total Adjustments	-0.042	-	2.864	-	2.864
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.020	-			
• Program Adjustments	-	-	2.953	-	2.953
• Rate/Misc Adjustments	-	-	-0.089	-	-0.089
• Congressional General Reductions Adjustments	-0.022	-	-	-	-

Change Summary Explanation

Technical: Not applicable.

Schedule: Added funds to complete LCU(R) CBA.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204413N: <i>Amphibious Tactical Supt Units</i>	PROJECT 2231: <i>LCU Replacement</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2231: <i>LCU Replacement</i>	4.315	5.214	8.435	-	8.435	4.621	4.344	3.179	3.258	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Current technology initiatives include the following: sustainability/readiness/performance analysis; LCAC communications improvements; development and qualification of FADEC for LCAC engines; new torque meter design for ETF40B engines and fuel efficiency trials; active shaft balancing system; fuel efficiency initiatives.

LCU (R): CBA for replacement program; LCU biofuels testing.

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

	FY 2011	FY 2012	FY 2013
Title: LCU Replacement	4.315	5.214	8.435
Articles:	0	0	0
FY 2011 Accomplishments: Began redevelopment of FADEC for LCAC engines; delivered approved plan for redesign of ETF40B engine torque meters; began redesign of torque meters; conducted LCU biofuels test.			
FY 2012 Plans: Complete development and achieve qualification of FADEC; initiate LCU(R) CBA process; conduct sea trials for LCAC fuel efficiency, active shaft balancing system and FADEC; redesign of tester for Digital Electronic Sequencing Unit (DESU);			
FY 2013 Plans: Conduct analysis and testing of new commercial non-skid products; research commercial products for low cost skirt fasteners; research commercial wireless radios and corrosion improvements for Halon bottles; complete LCU(R)CBA			
Accomplishments/Planned Programs Subtotals	4.315	5.214	8.435

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

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• OPN 0970: <i>Amphibious Tactical Support Units</i>	2.628	0.000	16.645	0.000	16.645	14.431	8.273	6.692	6.806	5.400	60.875
• OPN 0981/1: <i>Items < \$5M</i>	17.105	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	17.105
• SCN 5139: <i>LCAC SLEP</i>	82.576	84.076	47.930	0.000	47.930	82.282	83.990	85.498	87.687	64.239	618.278

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204413N: <i>Amphibious Tactical Supt Units</i>	PROJECT 2231: <i>LCU Replacement</i>

D. Acquisition Strategy

TECHNOLOGY TRANSFER - RDT&E efforts commenced in FY06. Multiple contracts and Field Activities are involved through FY17 to complete the various projects.

E. Performance Metrics

FY11 - Began development of FADEC. Delivered approved plan for redesign of ETF40B engine torque meters; began redesign of ETF40B engine torque meters; testing of torque meters. Began redevelopment of full authority digital engine controller. Conducted LCU biofuels testing.

FY12 - Complete development and achieve qualification of FADEC; complete LCAC fuel efficiency sea trials; conduct active shaft balancing system sea trial; begin redesign of tester for Digital Electronic Sequencing Unit (DESU); research commercial products available for solar powered battery chargers and wireless radios for use on LCACs

FY12 - Begin LCU(R) CBA process;

FY13 -conduct analysis of new commercial non-skid products for LCAC use and conduct at sea testing of new non-skid product on LCAC 91; research commercial products available for low cost skirt fasteners for use on LCACs

FY13 - Complete LCU(R) CBA process

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204413N: <i>Amphibious Tactical Supt Units</i>	PROJECT 2231: <i>LCU Replacement</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 CD:Philadelphia, PA	4.570	1.702	Mar 2012	1.253	Mar 2013	-		1.253	4.027	11.552	
Systems Engineering	WR	NSWC CD:Philadelphia, PA	1.908	1.000	Mar 2012	4.394	Mar 2013	-		4.394	3.800	11.102	
Subtotal			6.478	2.702		5.647		-		5.647	7.827	22.654	

Remarks
 FY12 - Systems Engineering contains \$700K for LCU Replacement efforts
 FY13 - Systems Engineering contains \$3,373K for LCU Replacement efforts

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	NSWC PCD:Panama City, FL	2.451	1.645	May 2012	2.321	Apr 2013	-		2.321	6.080	12.497	
Subtotal			2.451	1.645		2.321		-		2.321	6.080	12.497	

Remarks
 FY12 - Development Support contains \$300K for LCU Replacement efforts
 FY13 - Development Support contains \$627K for LCU Replacement efforts

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	Various:Various	0.287	-		-		-		-	0.000	0.287	
Operational T & E	WR	NSWC PCD:Panama City, FL	0.365	0.216	Mar 2012	0.196	Feb 2013	-		0.196	0.673	1.450	
Test Assets	WR	NSWC PCD:Panama City, FL	0.474	0.221	Mar 2012	0.155	Feb 2013	-		0.155	0.425	1.275	
Subtotal			1.126	0.437		0.351		-		0.351	1.098	3.012	

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204413N: <i>Amphibious Tactical Supt Units</i>	PROJECT 2231: <i>LCU Replacement</i>

EXHIBIT R4, Schedule Profile																May 2011																				
APPROPRIATION/BUDGET ACTIVITY				PROGRAM ELEMENT NUMBER AND NAME												PROJECT NUMBER AND NAME																				
RDT&E, N / BA-7				0204413N/Amphibious Tactical Support Units												2231 / LCU Replacement and DMFD																				
Fiscal Year	2011				2012				2013				2014				2015				2016				2017											
	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								
LCAC Technology Initiatives	▲																																			▲
LCUR Replacement						▲						▲																								

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204413N: <i>Amphibious Tactical Supt Units</i>	PROJECT 2231: <i>LCU Replacement</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2231				
LCAC Technology Initiatives	1	2011	4	2017
LCU (R) CBA	2	2012	4	2013

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204460M: <i>Ground/Air Task Oriented Radar (G/ATOR)</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	-	-	75.088	-	75.088	78.436	96.484	74.783	76.037	Continuing	Continuing
9C89: <i>Marine Ground-Air Radar</i>	-	-	75.088	-	75.088	78.436	96.484	74.783	76.037	Continuing	Continuing

A. Mission Description and Budget Item Justification

Ground/Air Task Oriented Radar (G/ATOR) (formerly known as the Multi-Role Radar System (MRRS)) is an expeditionary, 3-dimensional, high-mobility, multi-purpose wheeled vehicle, short/medium range multi-role radar designed to detect cruise missiles, air breathing targets, rockets, mortars, and artillery. MRRS and GWLR (Ground Weapons Locating Radar) merged into a single requirement/capability (G/ATOR) and will replace an aging fleet of single mission legacy radar systems. G/ATOR will support air defense, air surveillance, counter-battery/target acquisition, aviation radar tactical enhancements and the final evolution will also support the Air Traffic Control mission. This project was funded under Program Element 0206313M Project C3099 prior to FY 2010 and Program Element 0206313M Project 9C89 in FY11 and 12. It was moved to Program Element 0204460M in FY13.

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	-	-	-	-	-
Current President's Budget	-	-	75.088	-	75.088
Total Adjustments	-	-	75.088	-	75.088
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	-	-	75.088	-	75.088

Change Summary Explanation

Technical: Not applicable.
Schedule: Not applicable.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204460M: <i>Ground/Air Task Oriented Radar (G/ATOR)</i>	PROJECT 9C89: <i>Marine Ground-Air Radar</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
9C89: <i>Marine Ground-Air Radar</i>	-	-	75.088	-	75.088	78.436	96.484	74.783	76.037	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Ground/Air Task Oriented Radar (G/ATOR) (formerly known as the Multi-Role Radar System (MRRS)) is an expeditionary, 3-dimensional, high-mobility, multi-purpose wheeled vehicle, short/medium range multi-role radar designed to detect cruise missiles, air breathing targets, rockets, mortars, and artillery. MRRS and GWLR (Ground Weapons Locating Radar) merged into a single requirement/capability (G/ATOR) and will replace an aging fleet of single mission legacy radar systems. G/ATOR will support air defense, air surveillance, counter-battery/target acquisition, aviation radar tactical enhancements and the final evolution will also support the Air Traffic Control mission. This project was funded under Program Element 0206313M Project C3099 prior to FY 2010 and Program Element 0206313M Project 9C89 in FY11 and 12. It was moved to Program Element 0204460M beginning in FY13.

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

	FY 2011	FY 2012	FY 2013
<p>Title: G/ATOR Contractor Technical, Development Engineering/EDM</p> <p align="right">Articles:</p> <p>FY 2013 Plans: Finish Developmental Test 1B (DT1B), provide support for the conduct of Operational Assessment (OA), provide hardware and software update support in support of government directed changes as a result of DT1B and OA testing, assist in the development of program documentation in support of Milestone C (MS C), continue Anti-Tamper (AT) efforts, and continue to assist the government in development of LRIP configuration in support of Transition to LRIP.</p>	-	-	49.754 0
<p>Title: G/ATOR: Test and Evaluation</p> <p align="right">Articles:</p> <p>FY 2013 Plans: Provide support for the completion of DT1B, provide support for the conduct of Operational Assessment (OA).</p>	-	-	8.436 0
<p>Title: G/ATOR: Program Office Management & Travel Costs</p> <p align="right">Articles:</p> <p>FY 2013 Plans: Continue travel efforts in support of system development and test.</p>	-	-	0.300 0
<p>Title: Government Technical Support</p> <p align="right">Articles:</p> <p>FY 2013 Plans:</p>	-	-	9.902 0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204460M: <i>Ground/Air Task Oriented Radar (G/ATOR)</i>	PROJECT 9C89: <i>Marine Ground-Air Radar</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Government support from these activities to enable program execution; MITRE, NSWC Dahlgren, NSWC Crane, NSWC PHD, MARCORSSYSCOM and MCOTEA.			
Title: G/ATOR: Engineering, Management, & Logistics Support	-	-	6.696
FY 2013 Plans: Begin engineering, management & logistics program office support from CEOSS awardee.			0
Articles:			
Accomplishments/Planned Programs Subtotals	-	-	75.088

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

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2013</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u>	<u>Complete</u>	<u>Total Cost</u>
			<u>Base</u>	<u>OCO</u>	<u>Total</u>							
• PMC/465000: <i>GRND/AIR TASK ORIENTED RADAR</i>	0.000	0.000	90.348	0.000	90.348	109.025	80.310	254.185	258.581	Continuing		Continuing

D. Acquisition Strategy

The Ground/Air Task Oriented Radar (G/ATOR), formerly known as Multi-Role Radar System (MRRS) will fill the MRRS and GWLR requirements. Five legacy systems (AN/TPS-63, AN/UPS-3, AN/MPQ-62, AN/TPS-73 and AN/TPQ-46A) will be replaced by a single material design that offers an opportunity to reduce development cost and combine training and logistics assets. MRRS Aviation systems replace the AN/TPS-63, AN/MPQ-62 and AN/TPS-73 systems, as well as additional systems in support of the Short Range Air Defense (SHORAD) mission; MRRS Ground system is a one for one replacement of the AN/TPQ-46A. The Engineering Manufacturing Development (EMD) phase allows for technology insertion due to obsolescence and technology growth issues. As Tactical Enhancements become available, fielded systems will be backfitted. Two Engineering Development Models (EDM), (one Contractor, one Government), will be developed during the EMD phase and flowed down to support builds.

E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204460M: <i>Ground/Air Task Oriented Radar (G/ATOR)</i>	PROJECT 9C89: <i>Marine Ground-Air Radar</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
G/ATOR	C/CPIF	NORTHROP GRUMMAN SYSTEMS CORPORATION:LINTHICUM HEIGHTS, MD	-	-		49.754	Dec 2012	-		49.754	0.000	49.754	
Subtotal			-	-		49.754		-		49.754	0.000	49.754	

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
G/ATOR	FFRDC	MITRE:BOSTON, MA	-	-		1.518	Dec 2012	-		1.518	0.000	1.518	
G/ATOR	WR	NSWC-DAHLGREN:DAHLGREN, VA	-	-		6.736	Dec 2012	-		6.736	0.000	6.736	
G/ATOR	WR	NSWC-CRANE:CRANE, IN	-	-		0.307	Dec 2012	-		0.307	0.000	0.307	
G/ATOR	C/FP	MCSC:QUANTICO, VA	-	-		0.225	Dec 2012	-		0.225	0.000	0.225	
G/ATOR	C/CPIF	MCOTEA:QUANTICO, VA	-	-		0.512	Dec 2012	-		0.512	0.000	0.512	
G/ATOR	WR	NSWC-PHD:DAM NECK, VA	-	-		0.604	Dec 2012	-		0.604	0.000	0.604	
Subtotal			-	-		9.902		-		9.902	0.000	9.902	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
G/ATOR	C/CPIF	NORTHROP GRUMMAN SYSTEMS CORPORATION:LINTHICUM HEIGHTS, MD	-	-		3.801	Dec 2012	-		3.801	0.000	3.801	
G/ATOR	C/CPFF	AIMS:ROBINS AFB, GA	-	-		0.031	Dec 2012	-		0.031	0.000	0.031	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204460M: <i>Ground/Air Task Oriented Radar (G/ATOR)</i>	PROJECT 9C89: <i>Marine Ground-Air Radar</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
G/ATOR	WR	NSWC-DAHLGREN:DAHLGREN, VA	-	-		0.125	Dec 2012	-		0.125	0.000	0.125	
G/ATOR	MIPR	JTIC:FORT HUACHUCA, AZ	-	-		0.018	Dec 2012	-		0.018	0.000	0.018	
G/ATOR	C/CPIF	MCOTEA:QUANTICO, VA	-	-		3.462	Dec 2012	-		3.462	Continuing	Continuing	Continuing
G/ATOR	WR	NSWC-CORONA:CORONA, CA	-	-		0.062	Dec 2012	-		0.062	Continuing	Continuing	Continuing
G/ATOR	MIPR	MARINE CORPS AIR STATION:YUMA, AZ	-	-		0.937	Dec 2012	-		0.937	Continuing	Continuing	Continuing
Subtotal			-	-		8.436		-		8.436			

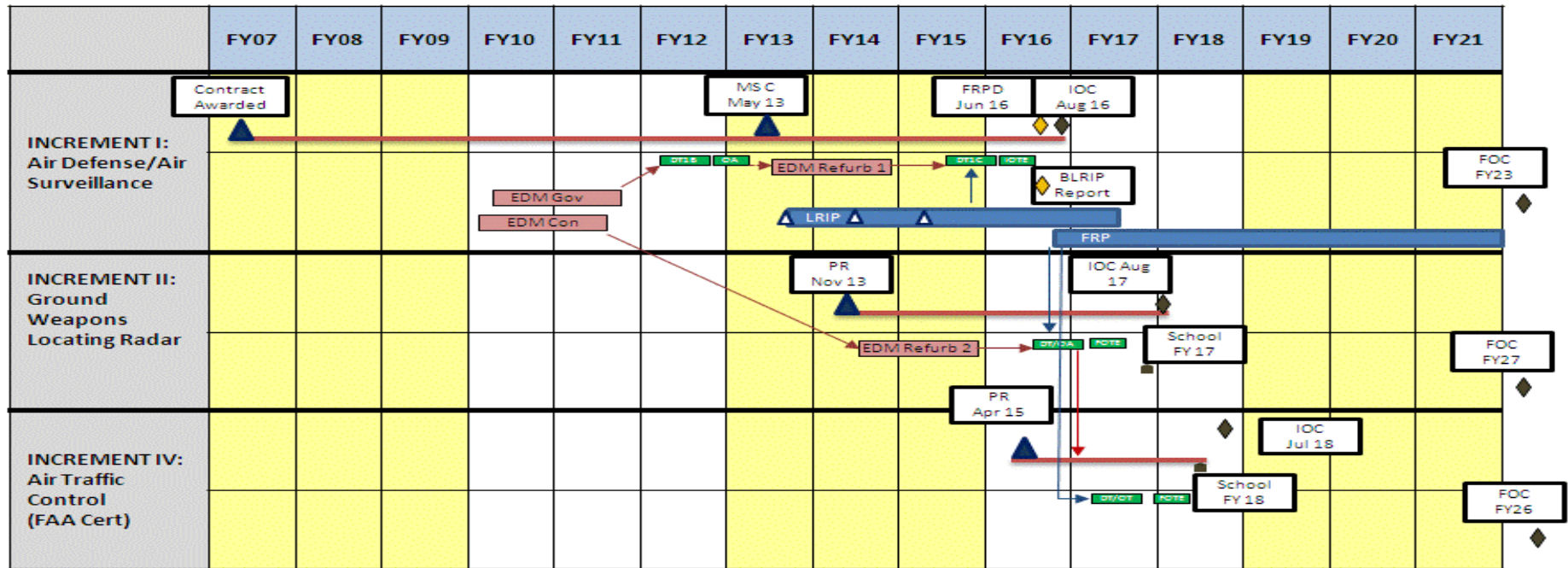
Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
G/ATOR	C/FP	MCSC:MCSC-QUANTICO, VA	-	-		6.696	Dec 2012	-		6.696	0.000	6.696	
G/ATOR	Various	MCSC:QUANTICO, VA	-	-		0.300	Sep 2013	-		0.300	Continuing	Continuing	Continuing
Subtotal			-	-		6.996		-		6.996			

	Total Prior Years Cost	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		-	-	75.088	-	75.088		

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy											DATE: February 2012				
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development						R-1 ITEM NOMENCLATURE PE 0204460M: Ground/Air Task Oriented Radar (G/ATOR)					PROJECT 9C89: Marine Ground-Air Radar				



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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204460M: <i>Ground/Air Task Oriented Radar (G/ATOR)</i>	PROJECT 9C89: <i>Marine Ground-Air Radar</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 9C89				
Defense/Air Surveillance AS/AD Capability System Demonstration (DT)(1B)	2	2012	4	2012
Defense/Air Surveillance AS/AD Capability System Demonstration (DT/OT)(1C)	3	2015	1	2016
Defense/Air Surveillance AS/AD Capability Operational Assessment (OA)	4	2012	1	2013
Defense/Air Surveillance AS/AD Capability Low Rate Initial Production (LRIP)	3	2013	3	2017
Defense/Air Surveillance AS/AD Capability Milestone C	3	2013	3	2013
Defense/Air Surveillance AS/AD Capability (IOT&E)	2	2016	2	2016
Defense/Air Surveillance AS/AD Capability (IOC)	4	2016	4	2016
Defense/Air Surveillance AS/AD Capability Full Rate Production Decision	4	2016	4	2016

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	39.792	42.244	20.229	-	20.229	29.813	23.972	22.066	22.554	Continuing	Continuing
0604: <i>Training Range & Instr Dev</i>	9.818	3.452	3.482	-	3.482	3.465	3.524	3.571	3.640	Continuing	Continuing
1427: <i>Surface Tactical Team Trainer (STTT)</i>	5.455	23.972	12.596	-	12.596	10.067	10.213	8.116	8.283	Continuing	Continuing
2124: <i>Air Warfare Training</i>	1.627	1.648	1.640	-	1.640	1.597	1.620	1.640	1.681	Continuing	Continuing
3087: <i>Curriculum & Trainer Development</i>	17.808	-	-	-	-	-	-	-	-	0.000	17.808
3093: <i>TACTS/LATR Replacement</i>	5.084	13.172	2.511	-	2.511	14.684	8.615	8.739	8.950	Continuing	Continuing

A. Mission Description and Budget Item Justification

A. MISSION DESCRIPTION:

0604 - The Training Range and Instrumentation Development Systems (TRIDS) program provides development of range systems including Large Area Tracking Range (LATR), Test & Training Enabling Architecture (TENA) interoperability and Tactical Training Ranges (TTR) infrastructure improvements.

1427/3087 - Surface Tactical Team Trainer (STTT) develops modifications during inactive sustainment of Battle Force Tactical Training (BFTT) system. This is required to maintain capabilities and interfaces to provide realistic combat system coordinated team, unit and Fleet Synthetic Training (FST) collective Group/Force level training events. In addition, BFTT supports the embedded trainer "family of systems" approach for the development of a Total Ship Training Capability (TSTC). Specific improvements include improved integration with the Navy Continuous Training Environment (NCTE) and development of a High Level Architecture (HLA) capable, integrated shipboard network to meet increasing Commander Naval Surface Forces (CNSF) and United States Fleet Forces Command (USFFC) FST requirements. The need for transforming training is documented within the Office of Force Transformation Military Transformation Initiative, DoD Training Transformation Plan, the Chief of Naval Operations Fleet Response Plan and Commander United States Fleet Forces Command Fleet Readiness Training Plan.

2124 - The Air Warfare Training Development (AWTD) program provides advanced component technology development, transition and risk mitigation for aviation training systems, including mission rehearsal simulation technologies, Live-Virtual Constructive (LVC) and the Aviation Training Technology Integration Facility (ATTIF). The ATTIF provides for incremental development, prototype evaluation, technology readiness level assessment and final fleet Test and Evaluation prior to technology transition.

3093 - The Tactical Combat Training System (TCTS) will provide the Navy a replacement for the Tactical Aircrew Combat Training System and LATR systems. TCTS will provide fleet deployable instrumentation for at sea training and tactics development. By providing a rangeless capability, the system will greatly increase the

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>
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area where live instrumented training can be conducted. Initial fielding of a Non Developmental Item (NDI) Pod system at NAS Key West and Beaufort is complete. The program incorporates evolutionary development (incremental) towards an encrypted system capable of supporting a broad spectrum of naval platforms through weapons simulations, participant weapons system stimulation and open architecture.

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	50.750	42.244	31.239	-	31.239
Current President's Budget	39.792	42.244	20.229	-	20.229
Total Adjustments	-10.958	-	-11.010	-	-11.010
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-9.896	-			
• SBIR/STTR Transfer	-0.804	-			
• Program Adjustments	-	-	-10.908	-	-10.908
• Rate/Misc Adjustments	-	-	-0.102	-	-0.102
• Congressional General Reductions Adjustments	-0.258	-	-	-	-

Change Summary Explanation

0604: No changes.

2124: R-4/4a reflects individual schedules for each accomplishment/planned program vice a single consolidated schedule. No changes to planned events within the budget.

3093: R-4/4a reflects Milestone Decision Authority (MDA) program rebaseline from five phases to two increments.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 0604: <i>Training Range & Instr Dev</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
0604: <i>Training Range & Instr Dev</i>	9.818	3.452	3.482	-	3.482	3.465	3.524	3.571	3.640	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 specialized instrumentations for fleet readiness training while minimizing life cycle costs. Tasks include development of the following: LATR improvements and TTR infrastructure improvements to include: the Joint Display Subsystem (JDS), Low Activity Pre-Processor (LAPP), Radar Acquisition Display Subsystem, Electronic Warfare (EW) server, Link 16 interface, TTR shipboard rotary platform technology improvements and Radiant Mercury (RM) Cross Domain Solution (CDS).

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

	FY 2011	FY 2012	FY 2013
Title: LATR	2.100	2.145	2.166
Articles:	0	0	0
<p>Description: Design, integrate and test modules to eliminate obsolete components in the LATR Pod. Design, integrate and test LATR software baseline upgrades. Design, integrate and test Participant Instrumentation Packages (PIP) modules to address obsolescence, high failure components and to improve operability and performance. Conduct and complete installation of the Ground System Rehosts. Conduct and complete security testing and assessment for LATR system certification and accreditation for Ground System Rehosts. Develop, test and integrate software and hardware modifications to system test sets. Develop LATR rotary wing re-size and LATR Datalink emulators. Develop, test and integrate LATR data translators. Conduct follow-on obsolescence studies to identify sub-projects required through FY16. Complete ground system and PIP refresh sub-projects, in conjunction with, semi-annual system block upgrades. Conduct LATR Operational Security (OPSEC) Posture Improvements Sub-Project.</p> <p>FY 2011 Accomplishments: Developed and tested LATR ground software version 5.5.0. New capabilities will include: an upgraded operating system to meet Information Assurance and obsolescence issues, an EW interface and software enhancements requested by fleet users. Continue LATR OPSEC posture improvements sub-project and initiate phase II Link-16 interface. Develop and test rotary wing/shipboard tracking improvement subproject.</p> <p>FY 2012 Plans: Develop and test LATR ground software version 5.6.0. Continue LATR OPSEC posture improvements sub-project and complete phase II Link-16 interface. Continue LATR EW interface development.</p> <p>FY 2013 Plans:</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 0604: <i>Training Range & Instr Dev</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
Develop and test LATR ground software version 5.7.0. Continue LATR Electronic Warfare (EW) interface development. Complete LATR Operational Security Posture Improvements.				
<p>Title: TENA</p> <p align="right">Articles:</p> <p>Description: Develop and test TTR Object Model (OM) for use with the OSD TENA Software Development Agency (SDA) TENA Middleware versions 5.0-11.0. Develop TTR TENA Gateway for use with the TTR EW server and JDS and Tactical Combat Training System instrumentation set. Develop TTR TENA Monitoring Tool for diagnostic use by TTR personnel and TTR System Support Activities. Develop and test TTR TENA product upgrades to be compatible with TENA SDA Middleware. Host TENA on the TTR EW server and JDS.</p> <p>FY 2011 Accomplishments: Developed and tested TTR TENA OM upgrade to be compatible with TENA SDA Middleware 6.0. Developed and tested TTR TENA Gateway upgrade to be compatible with TENA SDA Middleware 6.0. Developed and tested TTR TENA Monitoring Tool upgrade to be compatible with TENA SDA Middleware 6.0. Hosted TENA on the TTR EW server and JDS.</p> <p>FY 2012 Plans: Develop Graphical User Interface (GUI) for TTR TENA Monitoring Tool as requested by Fleet users. Develop and test TTR TENA 7.0 product upgrades to be compatible with evolving TENA SDA Middleware. Develop interfaces with evolving Joint TENA training events.</p> <p>FY 2013 Plans: Develop GUI for TTR TENA Monitoring Tool as requested by Fleet users. Develop and test TTR TENA 8.0 product upgrades to be compatible with evolving TENA SDA Middleware. Develop interfaces with evolving Joint TENA training events.</p>		7.200 0	0.800 0	0.800 0
<p>Title: TTR</p> <p align="right">Articles:</p> <p>Description: Develop and test upgrades to the JDS, LAPP, Radar Acquisition Display Subsystem (RADS), and EW server. Develop and test upgrades to the Link-16 Interface, JDS, LAPP, RADS, and EW server. Develop and test TTR shipboard and rotary platform tracking solution set.</p> <p>FY 2011 Accomplishments: Develop and test 2011.1 & 2011.2 upgrades to the JDS, LAPP, RADS, and EWS. Initiate development and test of TTR shipboard and rotary platform tracking solution set.</p> <p>FY 2012 Plans:</p>		0.518 0	0.507 0	0.516 0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 0604: <i>Training Range & Instr Dev</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Develop and test 2012.1 & 2012.2 upgrades to the JDS, LAPP, RADS, and EWS. Complete Phase I of sub-project to develop and test TTR shipboard and rotary platform tracking solution set. FY 2013 Plans: Develop and test 2013.1 & 2013.2 upgrades to the JDS, LAPP, RADS, and EWS. Complete TTR ship/rotary platform tracking set.			
Accomplishments/Planned Programs Subtotals	9.818	3.452	3.482

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

N/A

D. Acquisition Strategy

The Training Range and Instrumentation Development (TRID) program is a non-ACAT program. The integrated program teams that develop new TRID capabilities include government and contractor engineering personnel.

E. Performance Metrics

Metric/Description:

NAWC-AD: # of LATR software product improvements and new capabilities. 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 1 upgrade per year.

Tybrin Corp: # of Training Enabling Architecture software product improvements and new capabilities. Successful design, development and testing of product improvements and new capabilities. Site acceptance of product improvements with no Priority 1 or 2 problem reports.

NAWC-WD: # of TTR upgrades per year. 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.

Tybrin Corp: # of TTR software product improvements and new capabilities. Successful design, development, and testing of product improvements and new capabilities. Site acceptance of product improvements with no Priority 1 or 2 problem reports.

L-3 Corp: # of TTR software product improvements and new capabilities. Successful design, development, and testing of product improvements and new capabilities. Site acceptance of product improvements with no Priority 1 or 2 problem reports.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 0604: <i>Training Range & Instr Dev</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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-AD:PAX RIVER, MD	5.780	0.583	Nov 2011	0.804	Nov 2012	-		0.804	Continuing	Continuing	Continuing
Systems Engineering	WR	NAWC-WD:CHINA LAKE, CA	5.095	0.181	Nov 2011	0.670	Nov 2012	-		0.670	0.000	5.946	
Systems Engineering	C/CPFF	TYBRIN CORP:RIDGECREST, CA	7.979	1.961	Nov 2011	1.480	Nov 2012	-		1.480	0.000	11.420	11.420
Systems Engineering	C/CPFF	L-3 CORP:RIDGECREST, CA	-	0.600	Nov 2011	0.400	Nov 2012	-		0.400	0.000	1.000	1.000
Systems Engineering	WR	NSWC:CORONA, CA	1.360	-		-		-		-	0.000	1.360	
Systems Engineering	WR	NAWC-TSD:ORLANDO, FL	0.220	-		-		-		-	0.000	0.220	
Prior Year Prod Dev No Longer Funded in the Budget or Out Years (Systems Engineering)	Various	Various:Various	89.925	-		-		-		-	0.000	89.925	
Subtotal			110.359	3.325		3.354		-		3.354			

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Year Support No Longer Funded in the Budget or Out Years (Software Development)	Various	Various:Various	10.576	-		-		-		-	0.000	10.576	
Subtotal			10.576	-		-		-		-	0.000	10.576	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 0604: <i>Training Range & Instr Dev</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Year T&E No Longer Funded in the Budget or Out Years (Development Test & Evaluation)	Various	Various:Various	5.299	-		-		-		-	0.000	5.299	
Subtotal			5.299	-		-		-		-	0.000	5.299	

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	NAWC-TSD:ORLANDO, FL	2.513	0.127	Nov 2011	0.128	Nov 2012	-		0.128	0.000	2.768	
Subtotal			2.513	0.127		0.128		-		0.128	0.000	2.768	

	Total Prior Years Cost	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		128.747	3.452	3.482	-		3.482	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 0604: <i>Training Range & Instr Dev</i>
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Training Range & Instr Dev - Large Area Tracking Range	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				
	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	LATR - 5.5 UPGRADE				LATR - 5.6 UPGRADE				LATR - 5.7 UPGRADE				LATR - 5.8 UPGRADE				LATR - 5.9 UPGRADE				LATR - 6.0 UPGRADE				LATR - 6.1				
	LATR - LINK-16 INTERFACE (PHASE I & II)																												
	LATR - OPSEC POSTURE IMPROVEMENTS																												
	LATR - EW INTERFACE																												
Test & Evaluation																													
Production Milestones																													
Deliveries				LATR - 5.5 ▼			LATR - LINK-16 INT ▼			LATR - 5.6 ▼			LATR - 5.7 ▼			LATR - 5.8 ▼			LATR - 5.9 ▼			LATR - 6.0 ▼							LATR - 6.1 ▼
										LATR - OPSEC POSTU ▼						LATR - EW INTERFAC ▼													

2013DON - 0204571N - 0604

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 0604: <i>Training Range & Instr Dev</i>
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Training Range & Instr Dev - Test & Training Enabling Architecture	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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																												
	TENA - 6.0				TENA - 7.0				TENA - 8.0				TENA - 9.0				TENA - 10.0				TENA - 11.0				TENA - 12.0			
Test & Evaluation																												
Production Milestones																												
Deliveries				TENA - 6.0 ▼				TENA - 7.0 ▼				TENA - 8.0 ▼				TENA - 9.0 ▼				TENA - 10.0 ▼				TENA - 11.0 ▼				TENA - 12.0 ▼

2013DON - 0204571N - 0604

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 0604: <i>Training Range & Instr Dev</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Training Range & Instr Dev - Large Area Tracking Range				
System Development: LATR - 5.5 UPGRADE	1	2011	4	2011
System Development: LATR - 5.6 UPGRADE	1	2012	4	2012
System Development: LATR - 5.7 UPGRADE	1	2013	4	2013
System Development: LATR - 5.8 UPGRADE	1	2014	4	2014
System Development: LATR - 5.9 UPGRADE	1	2015	4	2015
System Development: LATR - 6.0 UPGRADE	1	2016	4	2016
System Development: LATR - 6.1 UPGRADE	1	2017	4	2017
System Development: LATR - LINK-16 INTERFACE (PHASE I & II)	1	2011	2	2012
System Development: LATR - OPSEC POSTURE IMPROVEMENTS	1	2011	4	2013
System Development: LATR - EW INTERFACE	4	2011	1	2015
Production Milestones: Deliveries: LATR - 5.5 UPGRADE	4	2011	4	2011
Production Milestones: Deliveries: LATR - 5.6 UPGRADE	4	2012	4	2012
Production Milestones: Deliveries: LATR - 5.7 UPGRADE	4	2013	4	2013
Production Milestones: Deliveries: LATR - 5.8 UPGRADE	4	2014	4	2014
Production Milestones: Deliveries: LATR - 5.9 UPGRADE	4	2015	4	2015
Production Milestones: Deliveries: LATR - 6.0 UPGRADE	4	2016	4	2016
Production Milestones: Deliveries: LATR - 6.1 UPGRADE	4	2017	4	2017
Production Milestones: Deliveries: LATR - LINK-16 INTERFACE (PHASE I & II)	2	2012	2	2012
Production Milestones: Deliveries: LATR - OPSEC POSTURE IMPROVEMENTS	4	2013	4	2013
Production Milestones: Deliveries: LATR - EW INTERFACE	1	2015	1	2015
Training Range & Instr Dev - Test & Training Enabling Architecture				

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 0604: <i>Training Range & Instr Dev</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
System Development: TENA - 6.0	1	2011	4	2011
System Development: TENA - 7.0	1	2012	4	2012
System Development: TENA - 8.0	1	2013	4	2013
System Development: TENA - 9.0	1	2014	4	2014
System Development: TENA - 10.0	1	2015	4	2015
System Development: TENA - 11.0	1	2016	4	2016
System Development: TENA - 12.0	1	2017	4	2017
Production Milestones: Deliveries: TENA - 6.0	4	2011	4	2011
Production Milestones: Deliveries: TENA - 7.0	4	2012	4	2012
Production Milestones: Deliveries: TENA - 8.0	4	2013	4	2013
Production Milestones: Deliveries: TENA - 9.0	4	2014	4	2014
Production Milestones: Deliveries: TENA - 10.0	4	2015	4	2015
Production Milestones: Deliveries: TENA - 11.0	4	2016	4	2016
Production Milestones: Deliveries: TENA - 12.0	4	2017	4	2017
Training Range & Instr Dev - Tactical Training Ranges				
System Development: TTR - 2011.1 + 2011.2 UPGRADE	1	2011	4	2011
System Development: TTR - 2012.1 + 2012.2 UPGRADE	1	2012	4	2012
System Development: TTR - 2013.1 + 2013.2 UPGRADE	1	2013	4	2013
System Development: TTR - 2014.1 + 2014.2 UPGRADE	1	2014	4	2014
System Development: TTR - 2015.1 + 2015.2 UPGRADE	1	2015	4	2015
System Development: TTR - 2016.1 + 2016.2 UPGRADE	1	2016	4	2016
System Development: TTR - 2017.1 + 2017.2 UPGRADE	1	2017	4	2017
System Development: TTR SHIPBOARD/ROTARY PLATFORM TRACKING SET	1	2011	1	2013
Production Milestones: Deliveries: TTR - 2011.1 + 2011.2 UPGRADE	4	2011	4	2011
Production Milestones: Deliveries: TTR - 2012.1 + 2012.2 UPGRADE	4	2012	4	2012

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 0604: <i>Training Range & Instr Dev</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Production Milestones: Deliveries: TTR - 2013.1 + 2013.2 UPGRADE	4	2013	4	2013
Production Milestones: Deliveries: TTR - 2014.1 + 2014.2 UPGRADE	4	2014	4	2014
Production Milestones: Deliveries: TTR - 2015.1 + 2015.2 UPGRADE	4	2015	4	2015
Production Milestones: Deliveries: TTR - 2016.1 + 2016.2 UPGRADE	4	2016	4	2016
Production Milestones: Deliveries: TTR - 2017.1 + 2017.2 UPGRADE	4	2017	4	2017
Production Milestones: Deliveries: TTR SHIPBOARD/ROTARY PLATFORM TRACKING SET	1	2013	1	2013

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 1427: <i>Surface Tactical Team Trainer (STTT)</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
1427: <i>Surface Tactical Team Trainer (STTT)</i>	5.455	23.972	12.596	-	12.596	10.067	10.213	8.116	8.283	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

BFTT Program provides realistic joint warfare training across the spectrum of armed conflict, realistic unit level team training in all warfare areas (e.g. BMD missions to support IAMD capabilities). BFTT will link ships together via USFFC NCTE. BFTT is evolving to an open distributed architecture with maximum commonality across ship classes, integrating existing training systems and evolving to HLA protocols. BFTT provides ships' Commanding Officers and Battle Group/Battle Force Commanders with the ability to conduct coordinated realistic, high stress, combat system level team training as an integral part of the Afloat Training Organization, the Tactical Training Groups and C2F/C3F FSTs. BFTT provides a baseline capability/system that meets the Operational Requirements Document (ORD). Without an operating BFTT system, the ship will be unable to complete system level testing impacting overall combat system operational testing.

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

	FY 2011	FY 2012	FY 2013
Title: Surface Tactical Team Trainer (STTT)	5.455	23.972	12.596
Articles:	0	0	0
FY 2011 Accomplishments:			
Certifies and fields BFTT 3.5B (critical Information Assurance (IA) & obsolescence corrections). Develops BFTT 3.5.1 (Aegis ACB 12, LSD 41/49 Class, LHA 7 & CVN 72) providing Editable Missile profiles, SM-6 Extended Range Automated Munition (ERAM) Display and Scripting, SSDS MK2 MOD5C Close In Weapon System simulation capability, IA improvements & supportability investments in Navigation Simulation (NAVSIM) & Data Collection Modules. Begin testing initiatives and define requirements for BFTT Build 5.0.			
FY 2012 Plans:			
Completes development and starts testing & certification of BFTT 3.5.1. Starts development of BFTT Build 5.0 (CVN 78 & Aegis 9B with back fit to various ships) provides Dual Band Radar interface, Corporative Engagement Capability Training Adjunct replacement along with AN/SPY-1 & AEGIS Combat Training System (ACTS) improvements allows Engage On Remote Training capability supporting NIFC-CA requirements, allows HLA path from NCTE to SQQ-89 for ASW training and SLQ-32 for EW training, database and modeling improvements along with IA improvements & supportability investments.			
FY 2013 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 1427: <i>Surface Tactical Team Trainer (STTT)</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Certifies and fields BFTT 3.5.1. Continue development of Build 5.0. Start requirements definition of BFTT Build 6.0/ACB 16 including de-integrating Scenario Generation & Control, Data Collection, Fusion & Debrief to create a common Combat System capability that supports the Combat System Product Line Architecture.			
Accomplishments/Planned Programs Subtotals	5.455	23.972	12.596

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

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• OPN 276200: <i>(Surface BFTT/ TSTC portion only)</i>	20.232	24.597	36.639	0.000	36.639	35.936	40.859	36.043	35.280	0.000	253.637

D. Acquisition Strategy

The BFTT acquisition strategy for system development utilizes the Advanced Capability Build (ACB) development model, as mandated by OPNAV. Incremental acquisition and fielding, utilizing commercial off-the-shelf technology to the extent possible, is in accordance with OPNAV LTR Ser N86/9U179029 dtd 31 Jul 09.

E. Performance Metrics

NSWC Dam Neck: Number of BFTT modification product improvements and new capabilities. Successful design, development, testing and fielding of product improvements, and new capabilities. Site acceptance of product improvements with no Priority 1 or 2 problem reports. Completion of one upgrade per ACB.

NSWC Dahlgren: Number of Test events completed. Training system interface problem resolutions documented. Safety Reviews in direct support of Element Certification.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 1427: <i>Surface Tactical Team Trainer (STTT)</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	NAVSEA 02/ CDSA:Dam Neck	11.926	1.110	Feb 2012	1.200	Dec 2012	-		1.200	Continuing	Continuing	Continuing
Systems Engineering	WR	NSWC Dam Neck/ NSWC Dahlgren/ NAVSEA 02:Dam Neck/ NSWC Dahlgren	7.377	4.892	Feb 2012	3.000	Dec 2012	-		3.000	0.000	15.269	
Subtotal			19.303	6.002		4.200		-		4.200			

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	WR	NSWC Dam Neck/ NAVSEA 02:WR/REQN	9.794	13.851	Feb 2012	5.296	Dec 2012	-		5.296	0.000	28.941	
Subtotal			9.794	13.851		5.296		-		5.296	0.000	28.941	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 PHD/NSWC Dam Neck/NAVSEA 02:WR/REQN	3.162	2.697	Feb 2012	1.700	Dec 2012	-		1.700	0.000	7.559	
Subtotal			3.162	2.697		1.700		-		1.700	0.000	7.559	

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 1427: <i>Surface Tactical Team Trainer (STTT)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 1427				
BFTT 3.5 Installs	3	2011	3	2011
BFTT 3.5.1 CDR	1	2011	1	2011
BFTT 3.5.1 TRR	1	2012	1	2012
BFTT 3.5.1 CPR ACB 12	3	2012	3	2012
BFTT 3.5.1 Certification LSD	1	2013	1	2013
BFTT 3.5.1 Certification ACB12	1	2014	1	2014
BFTT 5.0 SRR 1A	2	2011	2	2011
BFTT 5.0 PDR/CDR 1A/SRR/SFR 1B	1	2012	1	2012
BFTT 5.0 PDR 1B	2	2012	2	2012
BFTT 5.0 SRR/SFR 2	2	2012	2	2012
BFTT 5.0 CDR 1B	3	2012	3	2012
BFTT 5.0 PDR 2	3	2012	3	2012
BFTT 5.0 CDR 2	1	2013	1	2013
BFTT 5.0 TRR 1	4	2013	4	2013
BFTT 5.0 TRR 2	1	2014	1	2014
BFTT 5.0 CPR CVN 78	1	2015	1	2015
BFTT 5.0 Certification 1 CVN 78	2	2016	2	2016
BFTT 5.0 Certification 2 CVN 78	2	2017	2	2017
BFTT 6.0 SWTC	4	2011	4	2011
BFTT 6.0 SRR	3	2014	3	2014
BFTT 6.0 PDR	1	2015	1	2015

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 1427: <i>Surface Tactical Team Trainer (STTT)</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
BFTT 6.0 CDR	1	2016	1	2016
BFTT 6.0 TRR	2	2017	2	2017

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 2124: <i>Air Warfare Training</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2124: <i>Air Warfare Training</i>	1.627	1.648	1.640	-	1.640	1.597	1.620	1.640	1.681	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 transitions new training system technologies for use in Naval Aviation training. Products from this effort are directly tied to the Navy Aviation Simulation Master Plan (NASMP), NASMP technology upgrades, MH-60R/S master plan, Unmanned Aerial Systems (UAS) master plan, Live Virtual Constructive (LVC), F/A-18C-F Requirements Procurement Plan (RPP), multiple platform technology refresh efforts and the Multi-Mission Maritime Aircraft (MMA/P-8) programs. These efforts will support the development and design of future naval aviation training/mission rehearsal systems (fixed, deployed and unmanned). Tasks include: Advanced training systems specification development to provide for common, modular, High Level Assembly (HLA) compliant, high fidelity Distributed Mission Training (DMT) and mission rehearsal capabilities ashore and afloat. Technologies to be developed and integrated include: intelligent semi-automated forces technologies, automated performance measurement technology, advanced net-ready weapons simulation, Air to Air/Air to Ground (AA/AG), sensor weather server, common Mission Training Station (MTS) technologies, advanced visual-sensor technology, high resolution helmet mounted, and/or flat panel displays, 20-20 visual acuity image generation, NAVAIR Portable Source Initiative (NSPI), common correlated data set technologies, common software/database reuse technologies, advanced environmental effects modeling, fused radar/infra-red/electro-optic and acoustic sensor simulations, physics-based infra-red simulations, comms degradation modeling and final T&E within the Aviation Training Technology Integration Facility (ATTIF), NAWCAD, which is a man-in-the loop test bed for the integration of software, hardware and operational equipment. This ATTIF capability provides a window to fleet aviators for critical comment, evaluation and fine tuning of new, interoperable, and innovative technologies before final transition to the fleet. MTS, debrief/After Action Review (AAR) and intelligent training tools for the virtual environment are focused on human performance enhancements for fleet readiness and distributed mission training at all levels.

Metrics: These technology transitions seek to lower Total Ownership Costs (TOC) of the training systems and life cycle costs, including: increasing software re-use, reduced instructor manning profiles, software-based fidelity enhancements and increased fleet readiness by enhancing overall system fidelity to the projected operating environments. NASMP readiness improvements are conservatively forecasted at 12-35% following associated technology upgrades to stand-alone and networked simulators. Individual technology transition investments have routinely exceeded 300+% financial Return On Investment (ROI). Technology Readiness Levels (TRL), Training and Readiness, fleet readiness, and financial metrics are used.

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

	FY 2011	FY 2012	FY 2013
Title: HUMAN/INSTRUCTIONAL SYSTEMS INTEGRATION	0.785	0.742	0.515
Articles:	0	0	0
Description: Develop common and platform unique MTS, Intelligent Tactical Semi-Automated-Forces (SAF) and high fidelity simulator component technologies. MTS and Intelligent SAF designs lower NASMP upgrade and simulator life-cycle costs. Integrate Voice-Capable SAF component technologies, improve common instructor interface effectiveness and provide for multi-SAF exercise utilization. Analyze, develop, and integrate open architecture components for F/A-18C-F, MH-60R/S, UAS, E-2C/D			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 2124: <i>Air Warfare Training</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<p>& USMC mission areas, intelligent instructor operator components, Tactical Air (TACAIR) Multi-Mission Aircraft (MMA)/Reduced Oxygen Breathing Device-Spatial Disorientation common graphic user interface initiatives, common threat system formats and Next Generation Threat System connectivity, Joint Semi-Automated-Forces (SAF) compatability, performance measurement, and after action review/ debrief innovations, thereby maximizing return on investment for mission training station-related technology investments.</p> <p>FY 2011 Accomplishments: Provided modular MTS designs to lower fixed-wing F/A-18, ROBD-SD and NASMP/Platform simulator life-cycle costs. Completed the following: Integrated Voice-Capable SAF archive technologies, improved common instructor interface effectiveness for P-8A and first phase of multi-SAF exercise capability. Analyzed, developed and integrated open architecture component improvements for Hypoxia and General Training including MH-60R/S, UAS, E-2C and USMC mission areas, intelligent instructor operator components, TACAIR/ MMA)/ROBD-SD common graphic user interface, common threat system formats and Next Generation Threat System (NGTS) connectivity, Joint SAF compatability, performance measurement and after action review/ debrief thereby maximizing return on investment for mission training station related technology investments.</p> <p>FY 2012 Plans: Provide for modular MTS designs to lower NASMP/Platform simulator upgrade life-cycle costs, integrate TACAIR Voice-Capable SAF component technologies, improve common instructor interface effectiveness and provide for multi-SAF exercise utilization. Continue to analyze, develop, and integrate open architecture components for FA-18C-F, MH-60R/S, UAS, E-2C/D & USMC mission areas, intelligent instructor operator components, TACAIR/MMA/ROBD-SD common graphic user interface initiatives, common threat system formats and NGTS connectivity, Joint SAF compatability, performance measurement, and after action review/ debrief, thereby maximizing return on investment for mission training station-related technology investments.</p> <p>FY 2013 Plans: Provide for ongoing modular MTS designs to lower NASMP upgrade and simulator upgrade life-cycle costs, integrate Voice-Capable SAF component technologies, improve P-8A and UAS common instructor interface effectiveness and provide for multi-SAF exercise utilization. Continue to analyze, develop, and integrate open architecture components for UAS/Broad Area Maritime Surveillance (BAMS), F/A-18C-F, MH-60R/S, E-2C/D & USMC mission areas, intelligent instructor operator components, TACAIR/ MMA/ROBD-SD common graphic user interface initiatives, common threat system formats and NGTS, Joint SAF compatability, performance measurement, and after-action review/ debrief, thereby maximizing fleet efficiencies and ROI for mission training station-related technology investments.</p>				
Title: SENSORS AND ENVIRONMENT		0.300	0.350	0.450
Articles:		0	0	0

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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 2124: <i>Air Warfare Training</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
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Description: Develop common and platform unique sensor and environmental simulation into fidelity upgrades with Government Off the Shelf Software (GOTS). Perform risk reduction, advanced displays innovation, test and evaluation, integration, and production of Inter-service Common Sensor Model and Integrated Distributed Sensor Scene Simulation System for Navy DMT, new ROBD-SD and legacy devices. Demonstrate GOTS capability for cost-effective database materialization, associated NPSI specifications and processes for implementation on DMT, deployed trainers, legacy, and new visual system upgrade programs. In support of NASMP upgrade efforts, develop texture storage, sensor-environmental effects, Sensor-Scene Environmental Radiometry Engine (SERE) NPSI material reference processes/standards, automated technology applications for real time publishing, shadows, cultural lighting, combat, and weather effects and very high-resolution visualization technologies.

FY 2011 Accomplishments:
Integrated Out of The Window (OTW) Inter-Service Common Sensor Model (ICSM) and environmental modeling with GOTS for the F/A-18 and ROBD-SD class of trainers. Performed risk reduction, advanced displays T&E, integration and production of ICSM for Navy DMT and legacy devices with first article implementation of Distributed Sensor Scene Simulation System (DS4) on the ROBD-SD. Demonstrated GOTS capability for cost-effective database materialization, and developed NPSI specifications and processes for implementation on DMT, deployed trainers, legacy, and new visual system upgrade programs. Developed texture storage, sensor-environmental effects, environment technology maturation, NPSI material reference processes/standards, and automated technology applications for real time publishing, shadows, cultural lighting, combat, and weather effects and very high-resolution visualization for planned F/A-18 C-G visual system upgrades.

FY 2012 Plans:
Continue to integrate common and platform specific sensors/GOTS implementations. Perform risk reduction, advanced displays T&E, integration and production of ICSM for Navy DMT and legacy devices. Demonstrate SERE GOTS capability for cost-effective environmental effects database materialization, and develop associated NPSI common specifications/processes for implementation on DMT, deployed trainers, legacy, and new visual system upgrade programs in accordance with platform and NASMP priorities. Develop texture storage, weather and sensor-environmental effects, Environment NPSI common material reference processes/standards, and automated technology applications for real time publishing, shadows, cultural lighting, combat, and weather effects and very high-resolution sensor visualization

FY 2013 Plans:
Continue to integrate common and platform unique real-time sensor simulation with GOTS implementations. Perform risk reduction, advanced displays T&E, integration and production of ICSM for UAS, Navy DMT and legacy devices. Demonstrate SERE GOTS capability for cost-effective environmental effects database materialization, and develop associated NPSI specifications and processes for implementation on DMT, deployed mission readiness trainers, legacy, and new visual system upgrade programs in accordance with NASMP priorities. Develop texture storage, weather and sensor-environmental effects,

FY 2011	FY 2012	FY 2013

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 2124: <i>Air Warfare Training</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<p>SERE Environment NPSI material reference processes/standards, and automated technology applications for real time publishing, shadows, cultural lighting, combat, and weather effects, communication and radio frequency models and very high-resolution sensor visualization for multiple platform upgrade initiatives.</p> <p>Title: SYSTEM ENGINEERING & INTEGRATION</p> <p>Articles:</p> <p>Description: Integrate and test legacy and General Training/Hypoxia system components for Navy survivability and deployable readiness training devices. Provide GOTS component TRL assessment for general training components, tactical GUI and performance measurement and tactical scenario-control technologies. Test and demonstrate E-2C Distributed Mission Readiness Trainer (DMRT) configurations and General Training technologies, while maintaining or increasing fidelity. Analyze GOTS/Commercial Off the Shelf (COTS) alternatives for network centric warfare compliance connectivity in the simulated battlespace, NCTE interoperability and human mission performance measurements while reducing training system life cycle cost. Ensure proper TRL levels for integrating software components, achieve readiness and create a financial ROI.</p> <p>FY 2011 Accomplishments: Integrated and tested F/A-18, ROBD-SD and E-2C deployable readiness and rehearsal system technologies into training devices. Provided GOTS component TRL assessment for General Training, intelligent synthetic forces, tactical debrief GUIs, performance measurement and tactical scenario-control technologies. Demonstrated low-cost NCTE capable DMT & DMRT configurations, and virtual range technologies while maintaining or increasing fidelity. Analyzed GOTS/COTS alternatives for general training and network centric warfare connectivity in the simulated battlespace and NCTE interoperability while reducing training system life cycle cost. Ensured proper TRL levels for integrating software components.</p> <p>FY 2012 Plans: Continue to integrate and test open architecture components for Navy DMT and deployable readiness and rehearsal systems and training devices. Provide GOTS component TRL assessment for "mixed-SAF" intelligent synthetic forces, tactical GUIs, and tactical scenario-control technologies. Demonstrate low-cost LVC capable DMT & DMRT configurations, and virtual range technologies, while maintaining or increasing fidelity. Analyze GOTS/COTS alternatives for network centric warfare connectivity in the simulated battlespace, NCTE interoperability, while reducing training system life cycle cost. Ensure proper TRL levels for integrating software components.</p>		0.368 0	0.327 0	-
<p>Title: LIVE VIRTUAL CONSTRUCTIVE (LVC) AND VISUALS</p> <p>Articles:</p> <p>Description: AWTD provides for risk mitigation and next generation LVC and advanced visualization component development for distributed mission training and stand-alone and small footprint deployable devices. Support the NASMP upgrade efforts and Type/Model/Series (T/M/S) programs with advanced visual system display configurations requirements. Assess trainee cognitive</p>		0.174 0	0.229 0	0.675 0

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
requirements and the development and incorporation of next generation LVC and visualization technologies. Additionally, AWTD provides for advanced virtual component fidelity improvements for LVC capability (such as "Mobility" Part-Task Trainers (PTT) and DMTR class devices).			
<i>FY 2011 Accomplishments:</i> Supported the NASMP upgrade efforts, F/A-18, LVC cognitive front-end analysis, survival/spatial disorientation training and T/M/S visual research programs to include the development of advanced visual system display configurations, low cost display configurations and advanced Helmet Mounted Displays (HMD) using next generation technology for both stand-alone and small footprint deployable devices.			
<i>FY 2012 Plans:</i> Continue to support the NASMP and T/M/S visual research programs to include the development of advanced visual system display configurations using next generation technology for both stand-alone and small footprint deployable devices.			
<i>FY 2013 Plans:</i> Continue to support NASMP upgrades and T/M/S visual research programs to include the development of high fidelity advanced visual system display configurations using next generation technology for both stand-alone and small footprint deployable devices. Apply advanced visualization to after action review systems.			
Accomplishments/Planned Programs Subtotals	1.627	1.648	1.640

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

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2013</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u>	<u>Total Cost</u>
			<u>Base</u>	<u>OCO</u>	<u>Total</u>					<u>Complete</u>	<u>Total Cost</u>
• APN/0705: <i>COMMON GROUND EQUIPMENT - TRAINING</i>	137.056	152.186	162.371	0.000	162.371	162.490	198.599	164.127	202.169	Continuing	Continuing

D. Acquisition Strategy

AWTD is a 6.7 RDT&E joint technology transition program tied to NASMP upgrades and the various platform simulation master plans with the purpose of transitioning advanced training and mission rehearsal technologies. AWTD provides risk mitigation, test and evaluation, and prototype development for stand-alone, distributed, and deployed training systems for the warfighter utilizing an Integrated Product Team approach and a combination of reimbursable and direct cite/cost-plus T&M contracts.

E. Performance Metrics

NAWC-TSD: # of transitions to Fleet Platforms. For each transition, successful TRL testing and device Ready for Training (RFT) to Fleet platforms. Seminal transition events are either RFT or tech-refresh Authority to Operate.
NAWC-AD: Complete TRL & compliance testing for NASMP and Information Assurance directives.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
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<p>Alion Science and Technology, Inc: Initial Training Capability passes Contractor/Government testing and evaluation.</p> <p>RSC Inc: Successful Small Business Innovation Research evaluation of device testing.</p> <p>Aptima Inc: Successful Small Business Innovation Research evaluation of device testing.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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-TSD:ORLANDO, FL	15.689	0.269	Nov 2011	0.327	Nov 2012	-		0.327	0.000	16.285	
Systems Engineering	WR	NAWC-AD:PAX RIVER, MD	1.136	-		0.200	Nov 2012	-		0.200	0.000	1.336	
Systems Engineering	WR	NPS:MONTEREY, CA	0.300	-		-		-		-	0.000	0.300	
Systems Engineering	C/CPFF	ALION SCIENCE:NORFOLK, VA	-	0.456	Mar 2012	-		-		-	0.000	0.456	0.456
TBD	C/CPFF	TBD:TBD	-	-		0.353	Mar 2013	-		0.353	0.000	0.353	0.353
Systems Engineering	C/CPFF	APTIMA:ORLANDO, FL	0.250	0.100	Feb 2012	0.241	Mar 2013	-		0.241	0.000	0.591	0.591
Systems Engineering	C/CPFF	RSC INC.:ORLANDO, FL	-	0.350	Mar 2012	0.300	Mar 2013	-		0.300	0.000	0.650	0.650
Systems Engineering	FFRDC	SANDIA, NATIONAL LAB:ALBUQUERQUE, NM	-	0.150	Feb 2012	-		-		-	0.000	0.150	
Subtotal			17.375	1.325		1.421		-		1.421	0.000	20.121	

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 Equipment Development	WR	NAWC-TSD:ORLANDO, FL	0.040	-		-		-		-	0.000	0.040	
Prior Year Support No Longer Funded in the Budget or Out Years (Support Equipment Development)	Various	Various:Various	1.713	-		-		-		-	0.000	1.713	
Subtotal			1.753	-		-		-		-	0.000	1.753	

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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 (Sys Eng & Test)	WR	NAWC AD:PAX RIVER, MD	5.868	0.102	Nov 2011	-		-		-	0.000	5.970	
Subtotal			5.868	0.102		-		-		-	0.000	5.970	

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	METI CORP:PAX RIVER, MD	0.491	0.206	Dec 2011	0.204	Dec 2012	-		0.204	0.000	0.901	0.901
Travel	PO	NAVAIR:PAX RIVER, MD	0.481	0.015	Dec 2011	0.015	Dec 2012	-		0.015	0.000	0.511	
Subtotal			0.972	0.221		0.219		-		0.219	0.000	1.412	

Remarks
PO used for travel orders.

	Total Prior Years Cost	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	25.968	1.648	1.640	-	1.640	0.000	29.256	

Remarks

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 2124: <i>Air Warfare Training</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Human/Instructional Systems Integration</i>				
Systems Development: Common MTS/TACSAF Technology Development	4	2011	4	2017
Systems Development: DMRT/Class Debrief & APAARS	1	2011	2	2012
Systems Development: Hypoxia/Spatial Disorientation Technology (Fixed/Rotary)	1	2011	4	2014
Production Milestones: DMRT-CLASS DEBRIEF & APAARS	4	2012	4	2012
Production Milestones: FIXED WING HYPOXIA	4	2011	4	2011
Production Milestones: ROTARY WING HYPOXIA/SPATIAL DISORIENTATION	4	2014	4	2014
Production Milestones: TACT AIR MTS	4	2013	4	2013
Production Milestones: P-3C MTS	4	2014	4	2014
Production Milestones: P-8A MTS	4	2015	4	2015
Production Milestones: UAS MTS	4	2016	4	2016
Production Milestones: LVC MTS	4	2017	4	2017
<i>Sensors and Environment</i>				
Systems Development: Common/Platform Sensors	1	2011	4	2017
Systems Development: Atmospherics/Weather	1	2011	4	2013
Systems Development: COMMS/EW	1	2013	4	2017
Production Milestones: INTERSERVICE COMMON SENSOR MODEL (ICSM)	4	2011	4	2011
Production Milestones: SERE	4	2012	4	2012
Production Milestones: REAL-TIME ATMOSPHERICS	4	2013	4	2013
Production Milestones: IDS4	4	2013	4	2013
Production Milestones: UAS/LVC	4	2016	4	2016
Production Milestones: COMMS/EW	4	2017	4	2017

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Systems Engineering and Integration</i>				
Systems Development: TACAIR HYPOXIA	1	2011	4	2012
Systems Development: EDRT/APAARS	1	2011	4	2012
Production Milestones: F/A-18 ROBD-SD	4	2012	4	2012
Production Milestones: DMRT/EDRT	4	2012	4	2012
<i>Live Virtual Constructive (LVC) and Visuals</i>				
Systems Development: Live	1	2012	4	2016
Systems Development: Virtual/Visuals	1	2011	4	2017
Systems Development: Constructive	1	2012	4	2017
Production Milestones: SYMBOLIGY SET	4	2014	4	2014
Production Milestones: LVC DATALINK	4	2016	4	2016
Production Milestones: TACTICAL PTT DEMO	4	2013	4	2013
Production Milestones: COGNITIVE FEA	4	2011	4	2011
Production Milestones: NASMP/TACTAIR UPGRADE	4	2012	4	2012
Production Milestones: MOBILITY PTT	4	2015	4	2015
Production Milestones: CNATRA PTT	4	2016	4	2016
Production Milestones: VIRTUAL/CONSTRUCTIVE MISSION REHERSAL	4	2017	4	2017
Production Milestones: TACSAF DEMO 1	4	2014	4	2014
Production Milestones: TACSAF DEMO 2	4	2016	4	2016
Production Milestones: TACSAF MISSION REHERSAL	4	2017	4	2017

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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
3087: <i>Curriculum & Trainer Development</i>	17.808	-	-	-	-	-	-	-	-	0.000	17.808
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

TSTC supports DoD Training Transformation and the updated Surface Warfare Training Manual COMNAVSURFOR INST 3502.01D (1 July 07) requirements which call for continuous learning and realistic mission training environments with measurable warfighter performance linked to readiness across the training continuum from in-port CONUS to in-theater mission rehearsal. TSTC Spiral 1 ship and shore based capabilities are critical to accomplishing Fleet Training Board of Directors strategy and objectives for warfighting performance improvements in the areas of ASW, BMD, and Surface Warfare and Information Warfare improvements. The TSTC Combat System Trainer (CST) enhancements to ship and shore trainers shall employ a spiral development process to allow continuous incremental implementation of core training system functionality and critical warfighting training capabilities in multiple mission areas as prioritized by the Fleet. TSTC will improve upon the current embedded trainer and interface interoperability limitations and model databases by developing the requisite architecture and associated computer programs to facilitate the transition to HLA and common modeling, scenario generation and control and assessment. Migration to TSTC is required to ensure continued, persistent FST interoperability via the NTCE. TSTC will integrate existing and emergent onboard training and assessment system capabilities to simulate realistic, train like you fight, combat-like conditions across combat systems, engineering, damage control and navigation systems. It shall provide a continuous shipboard organic learning environment through On-Demand, Just In Time, scenario-driven, Objective Based Training, and mission rehearsal capabilities initially available in port, and ultimately underway and in-theater.

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

	FY 2011	FY 2012	FY 2013
Title: Curriculum & Trainer Development	17.808	-	-
Articles:	0		
Description: Funds development of ship and shore TSTC core capabilities. TSTC shall be implemented as a System of Systems (SoS) capability. In the near term, TSTC development is focused on Combat Systems improvements and Navigation and Engineering trainer integration. In the long term, TSTC may expand to include Damage Control, Logistics, Aviation, Visit, Board, Search, and Seizure, Medical, Sentry/Lookout, Intelligence, and Security Force training. Development of TSTC Spiral 1 includes development of the completely redesigned, re-architected, and enhanced CST with the following characteristics: decoupled models and entity database; FST HLA compatibility; FST filtering improved training system usability; readiness based assessment objective based planning; and high band width encryption. TSTC shall integrate internal environments and interoperate with external environments via the NCTE. The TSTC common integrating element will be the Training Management System (TMS) capability. Establishing the architecture of the TMS is also part of TSTC Spiral 1 development. The need for transforming training is documented within the Office of Force Transformation Military Transformation Initiative, DoD Training Transformation Plan, the Chief of Naval Operations Fleet Response Plan, and Commander United States Fleet Forces Command Fleet Readiness Training			

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Plan. TSTC efforts include scenario development, knowledge management, common environment system/software engineering, technical system design, software design, safety assessment, program management, software development, system integration, test and evaluation and logistics support. Prototypes of the various TSTC hardware and software subsystems will be designed and documented in design specifications.			
<i>FY 2011 Accomplishments:</i> Certifies and fields BFTT 3.5B (critical Information Assurance (IA) & obsolescence corrections). Develops BFTT 3.5.1 (Aegis ACB 12, LSD 41/49 Class, LHA 7 & CVN 72) providing Editable Missile profiles, SM-6 ERAM Display and Scripting, SSDS MK2 MOD5C Close In Weapon System simulation capability, IA improvements & supportability investments in NAVSIM & Data Collection Modules. Defines requirements for BFTT Build 5.0			
Accomplishments/Planned Programs Subtotals	17.808	-	-

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

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPN 276200: <i>(Surface (N86) BFTT/TSTC portion only)</i>	20.232	24.597	36.639	0.000	36.639	35.936	40.859	36.043	35.280	0.000	253.637

D. Acquisition Strategy
The TSTC acquisition strategy for system development utilizes the spiral development model, as mandated by OSD and incremental acquisition and fielding, utilizing commercial off-the-shelf technology to the extent possible.

E. Performance Metrics
NSWC Dam Neck: # of BFTT/TSTC software and hardware product improvements and new capabilities. Successful design, development, and testing of product improvements and new capabilities. Site acceptance of product improvements with no Priority 1 or 2 problem reports.
NSWC Dahlgren: # of Test events and Training System interface problem resolutions documented. Successful application of system engineering processes. Safety Reviews in direct support of Element Certifications. Completion of 1 upgrade per year.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	CDSA Contracts:Virginia Beach, VA	2.800	-		-		-		-	0.000	2.800	
Systems Engineering	WR	NSWC PHD/CDSA/ NUWC Newport/ NSWC Dahlgren/ NAVSEA:PHD, CA/ Virginia Beach,VA/ Newport, RI	5.224	-		-		-		-	0.000	5.224	
Subtotal			8.024	-		-		-		-	0.000	8.024	

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	WR	NSWC PHD/CDSA/ NUWC Newport/ NSWC:Dahlgren/ NAVSEA 02	24.057	-		-		-		-	0.000	24.057	
Technical Documentation	WR	NSWC PHD/CDSA/ NUWC:Newport/NSWC Dahlgren/NAVSEA 02	0.548	-		-		-		-	0.000	0.548	
Subtotal			24.605	-		-		-		-	0.000	24.605	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 PHD/ CDSA:PHD,CA/Virginia Beach,VA	3.015	-		-		-		-	0.000	3.015	
Subtotal			3.015	-		-		-		-	0.000	3.015	

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 3087: <i>Curriculum & Trainer Development</i>

Proj 3087	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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
	3.5.1 CDR ▲	5.0 SRR ▲	3.5 Installs ▲	6.0 SWTC ▲																								

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 3087: <i>Curriculum & Trainer Development</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Proj 3087</i>				
TSTC SRR 5.0	2	2011	2	2011
TSTC Installs 3.5	3	2011	3	2011
TSTC SWTC 6.0	4	2011	4	2011
TSTC CDR 3.5.1	1	2011	1	2011

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 3093: <i>TACTS/LATR Replacement</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
3093: <i>TACTS/LATR Replacement</i>	5.084	13.172	2.511	-	2.511	14.684	8.615	8.739	8.950	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

TCTS will provide the Navy a replacement for major portions of the TACTS and LATR systems. TCTS will also provide fleet deployable training for at-sea training and tactics development. By providing a rangeless capability, the system will greatly increase the area where live instrumented training can be conducted. Fielding of a pod system is complete at TACTS sites. The program incorporates an evolutionary development (incremental) towards an encrypted system capable of supporting a broad spectrum of naval platforms through weapons simulations, participant weapons system stimulation, open architecture and an encrypted/long range secure data link.

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

	FY 2011	FY 2012	FY 2013
Title: TACTS/LATR REPLACEMENT	5.084	13.172	2.511
Articles:	0	0	0
Description: TCTS: Qualify and complete the Rangeless Pod system fielded at NAS Key West and Beaufort, including the complete Integrated Logistics products and training. Define Test and Training Enabling Architecture (TENA) compliant interface between TCTS and an Advance Display System (ADS). Develop a Rack-Mounted subsystem for use on rotary wing and transport aircraft. Continue development of the Advanced Data Link (ADL) waveform and to produce an encrypted data link. Develop related training range integration.			
FY 2011 Accomplishments: Plan delivery of an encrypted Engineering Development Model to support integration of ADL with TCTS participant and ground subsystems. Coordinate ADL development with National Security Agency to support encryption certification. Release Request for Proposal for ADL integration contract with associated activities to support contract award.			
FY 2012 Plans: Begin encryption integration activities into TCTS and conduct integration Preliminary Design Review.			
FY 2013 Plans: Continue encryption integration activities into TCTS and conduct integration Critical Design Review.			
Accomplishments/Planned Programs Subtotals	5.084	13.172	2.511

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 3093: <i>TACTS/LATR Replacement</i>

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

Line Item	FY 2011	FY 2012	FY 2013	FY 2013	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Cost To	Total Cost
			Base	OCO	Total					Complete	
• OPN/4204: <i>Weapons Range Support Equipment (WRSE)/TCTS</i>	5.119	5.156	5.230	0.000	5.230	5.364	5.401	5.504	5.606	0.000	42.718
• APN/0725: <i>Other Production Charges/Tactical Combat Training System (TCTS)</i>	7.536	10.124	3.399	0.000	3.399	13.909	14.123	15.515	15.790	0.000	104.183

D. Acquisition Strategy

TCTS will employ an evolutionary incremental acquisition strategy from base systems and provide for the development of the system to meet the full Operational Requirements Document requirements. TCTS is a cooperative program with the United States Air Force (USAF) P5 Combat Training System program.

E. Performance Metrics

General Dynamics: NSA approved encrypted Data Link Transceiver (DLT). Successful Engineering Development Model testing of encrypted DLT requirements with NSA.

Rockwell Collins: NSA approved encrypted DLT. Successful Engineering Development Model testing of encrypted DLT requirements with NSA.
Cubic DAI: Integration of encrypted DLT with TCTS equipment. Full integration of encrypted DLT with TCTS equipment.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 3093: <i>TACTS/LATR Replacement</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	GENERAL DYNAMICS:SCOTTSDALE, AZ	1.090	2.027	Mar 2012	-		-		-	0.000	3.117	3.117
Primary Hardware Development	C/CPIF	CUBIC DEFENSE APPL:SAN DIEGO, CA	9.811	-		-		-		-	0.000	9.811	9.811
Subtotal			10.901	2.027		-		-		-	0.000	12.928	12.928

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	SS/CPIF	CUBIC DEFENSE APPL:SAN DIEGO, CA	10.378	8.405	Dec 2011	-		-		-	0.000	18.783	18.783
Software Development	SS/CPIF	GENERAL DYNAMICS:SCOTTSDALE, AZ	5.548	-		-		-		-	0.000	5.548	5.548
Software Development	SS/CPIF	ROCKWELL COLLINS:CEDAR RAPIDS, IA	4.562	-		-		-		-	0.000	4.562	4.562
Integrated Logistics Support	SS/CPIF	CUBIC DEFENSE APPL:SAN DIEGO, CA	1.907	-		-		-		-	0.000	1.907	1.907
Prior Year Support No Longer Funded in the Budget or Out Years (Software Development)	Various	VARIOUS:VARIOUS	1.462	-		-		-		-	0.000	1.462	
Subtotal			23.857	8.405		-		-		-	0.000	32.262	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 3093: <i>TACTS/LATR Replacement</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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			
Operational Test & Evaluation	WR	OPER T&E:NORFOLK, VA	0.043	0.080	Nov 2011	0.030	Nov 2012	-		0.030	0.000	0.153	
Developmental Test & Evaluation	WR	NAWC-AD:PAX RIVER, MD	0.300	0.700	Nov 2011	0.220	Nov 2012	-		0.220	0.000	1.220	
Prior Year T&E No Longer Funded in the Budget or Out Years (Developmental Test & Evaluation)	Various	VARIOUS:VARIOUS	3.382	-		-		-		-	0.000	3.382	
Subtotal			3.725	0.780		0.250		-		0.250	0.000	4.755	

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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	TYBRIN:CHINA LAKE, CA	2.675	0.764	Nov 2011	0.795	Nov 2012	-		0.795	0.000	4.234	4.234
Contractor Engineering Support	C/CPFF	SRI:INDIAN HEAD, MD	-	0.050	Nov 2011	-		-		-	0.000	0.050	0.050
Contractor Engineering Support	C/CPFF	CUBIC DEFENSE:SAN DIEGO, CA	-	0.200	Jan 2012	-		-		-	0.000	0.200	0.200
Government Engineering Support	WR	NSWC:INDIAN HEAD, MD	-	0.081	Nov 2011	-		-		-	0.000	0.081	
Government Engineering Support	WR	NAWC-WD:CHINA LAKE, CA	-	0.300	Nov 2011	0.548	Nov 2012	-		0.548	0.000	0.848	
Travel	WR	VARIOUS:VARIOUS	0.028	0.042	Nov 2011	0.043	Nov 2012	-		0.043	0.000	0.113	
Government Engineering Support	WR	NAWC-AD:PAX RIVER, MD	1.502	0.523	Nov 2011	0.875	Nov 2012	-		0.875	0.000	2.900	
Contractor Engineering Support	WR	NAWC-WD:CHINA LAKE, CA	0.150	-		-		-		-	0.000	0.150	
Prior Year Mgmt No Longer Funded in the Budget or Out	Various	VARIOUS:VARIOUS	7.008	-		-		-		-	0.000	7.008	

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 3093: <i>TACTS/LATR Replacement</i>
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TACTS/LATR Replacement	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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							▲ Encryption MS B												▲ Encryption MS C									
Systems Development	Increment 2 Encrypted Datalink Capability																											
Test & Evaluation																												
Production Milestones	Increment 1 NDI - Transportable (GS, AS)								Increment 2 Encrypted Datalink Capability																			
NDI - Transportable (GS, AS)																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204571N: <i>Consolidated Trng Sys Dev</i>	PROJECT 3093: <i>TACTS/LATR Replacement</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
TACTS/LATR Replacement				
Acquisition Milestones: Encryption MS B	3	2012	3	2012
Acquisition Milestones: Encryption MS C	4	2015	4	2015
Systems Development: Increment 2 Encrypted Datalink Capability	1	2011	4	2017
Production Milestones: Increment 1 - NDI - Transportable (GS, AS)	1	2011	4	2012
Production Milestones: Increment 2 Encrypted Datalink Capability	4	2015	4	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204574N: <i>Cryptologic Direct Support</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	1.511	1.447	1.756	-	1.756	1.792	1.827	1.860	1.891	Continuing	Continuing
3091: <i>Advanced Cryptological Sys Eng (CCOP)</i>	1.511	1.447	1.756	-	1.756	1.792	1.827	1.860	1.891	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Advanced Cryptologic Systems Engineering - Cryptologic Carry On Program develops state-of-the-art signal acquisition software in response to Combatant Command requirements for a quick-reaction surface, subsurface, and airborne cryptologic carry-on capability. There are approximately 115 cryptologic capable surface ships in the current Navy inventory, and each is a potential user of this carry-on equipment, depending on deployment schedules and the tempo of operations. In addition, numerous subsurface and air platforms are potential users. This funding line will provide the resources to enable rapid transition of available Commercial Off-The-Shelf (COTS) and Government Off-The-Shelf (GOTS) technologies that apply to Fleet requirements for carry-on system functionalities. These technologies typically require various levels of integration to leverage on-board systems that provide system and mission management, product reporting, and data analysis. Before deployment for operational use, systems must be tested to ensure suitable and reliable operation, tested for network vulnerabilities if connected to shipboard Local Area Networks, and tested relative to interoperability requirements. Certification testing is conducted to meet Office of Naval Intelligence security requirements and network testing is conducted in accordance with Information Technology (IT)-21 requirements to allow connection to Navy networks. Funding will also provide resources to address rapid deployment of enhancements or improvements to the common hardware and/or software baseline of all other carry-on subsystems to meet emergent requirements.

B. Program Change Summary (\$ in Millions)

	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013 Base</u>	<u>FY 2013 OCO</u>	<u>FY 2013 Total</u>
Previous President's Budget	1.519	1.447	1.757	-	1.757
Current President's Budget	1.511	1.447	1.756	-	1.756
Total Adjustments	-0.008	-	-0.001	-	-0.001
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	-	-	-0.001	-	-0.001
• Congressional General Reductions Adjustments	-0.008	-	-	-	-

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204574N: <i>Cryptologic Direct Support</i>
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Change Summary Explanation

Technical: Not applicable.
Schedule: Not applicable.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204574N: <i>Cryptologic Direct Support</i>	PROJECT 3091: <i>Advanced Cryptological Sys Eng (CCOP)</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
3091: <i>Advanced Cryptological Sys Eng (CCOP)</i>	1.511	1.447	1.756	-	1.756	1.792	1.827	1.860	1.891	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Advanced Cryptologic Systems Engineering - Cryptologic Carry On Program program develops state-of-the-art signal acquisition software in response to Combatant Command requirements for a quick-reaction surface, subsurface and airborne cryptologic carry-on capability. There are approximately 115 cryptologic capable surface ships in the current Navy inventory, each is a potential user of this carry-on equipment, depending on deployment schedules and the tempo of operations. In addition, there are numerous subsurface and air platforms that are also potential users. This funding line will provide the resources to enable rapid transition of available Commercial Off-The-Shelf (COTS) and Government Off -The-Shelf (GOTS) technologies that apply to Fleet requirements for carry-on system functionalities. These technologies typically require various levels of integration to leverage on-board systems that provide system and mission management, product reporting, and data analysis. COTS/GOTS system documentation and training materials usually require adaptation or modification to meet fleet operator requirements, or entirely new training materials may need to be developed. Before deployment for operational use, systems must be systematically tested to ensure suitable and reliable operation, tested for network vulnerabilities if connected to shipboard Local Area Networks, and tested relative to interoperability requirements. Certification testing is conducted to meet Office of Naval Intelligence security requirements and network testing is conducted in accordance with Information Technology (IT)-21 requirements to allow connection to Navy networks. Funding will also provide resources to address rapid deployment of enhancements or improvements to the common hardware and/or software baseline of all other carry-on subsystems to meet emergent requirements.

FY13 funds will continue to integrate, test, and document identified COTS and GOTS technologies and subsystems that meet emergent and on-going Fleet requirements as specified in the Signals of Interest (SOI) and target threat list. Funds will continue to develop upgrades to existing systems and subsystems according to Fleet requirements. Additional funds will aid in the development of new SOI algorithms in support of cryptologic systems.

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

	FY 2011	FY 2012	FY 2013
Title: Advanced Cryptological Sys Eng (CCOP)	1.511	1.447	1.756
Articles:	0	0	0
FY 2011 Accomplishments: Continued to integrate, test, and document identified COTS and GOTS technologies and subsystems that met emergent and on-going Fleet requirements as specified in the FY11 SOI and target threat list. Developed upgrades to existing systems and subsystems according to Fleet requirements.			
FY 2012 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204574N: <i>Cryptologic Direct Support</i>	PROJECT 3091: <i>Advanced Cryptological Sys Eng (CCOP)</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Continue to integrate, test, and document identified COTS and GOTS technologies and subsystems that meet emergent and on-going Fleet requirements as specified in the Signals of Interest (SOI) and target threat list. Funds will continue to develop upgrades to existing systems and subsystems according to Fleet requirements. <i>FY 2013 Plans:</i> Continue to integrate, test, and document identified COTS and GOTS technologies and subsystems that meet emergent and on-going Fleet requirements as specified in the Signals of Interest (SOI) and target threat list. Funds will continue to develop upgrades to existing systems and subsystems according to Fleet requirements. Additional funds will aid in the development of new SOI algorithms in support of cryptologic systems.			
Accomplishments/Planned Programs Subtotals	1.511	1.447	1.756

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

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• OPN / 3501: <i>Cryptologic Communications Equipment</i>	12.764	10.173	10.112	0.000	10.112	10.240	10.389	10.588	10.780	Continuing	Continuing

D. Acquisition Strategy

Acquisition, management, and contracting strategies are to support engineering and manufacturing development by providing funds to Space and Naval Warfare (SPAWAR) Systems Centers Atlantic and Pacific, and miscellaneous contractors with management oversight by SPAWAR.

E. Performance Metrics

Cryptologic Carry On Program (CCOP) will deliver state-of-the-art signal acquisition software for CCOP systems in response to Combatant Command requirements for a quick-reaction surface, subsurface and airborne cryptologic carry-on capability. There are approximately 241 CCOP systems in inventory.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204574N: <i>Cryptologic Direct Support</i>	PROJECT 3091: <i>Advanced Cryptological Sys Eng (CCOP)</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	Various	Various:Various	1.915	-		-		-		-	Continuing	Continuing	Continuing
Systems Engineering	C/CPFF	Classified Contract:Classified Contract	0.197	0.230	Dec 2011	0.260	Dec 2012	-		0.260	Continuing	Continuing	Continuing
Subtotal			2.112	0.230		0.260		-		0.260			

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	6.109	-		-		-		-	Continuing	Continuing	Continuing
Software Development	C/CPFF	Classified Contract:Classified Contract	0.552	0.517	Feb 2012	0.674	Dec 2012	-		0.674	Continuing	Continuing	Continuing
Software Development	WR	SSC PAC:San Diego, CA	0.310	0.340	Jan 2012	0.407	Nov 2012	-		0.407	Continuing	Continuing	Continuing
Software Development	WR	SSC LANT:Charleston, SC	0.165	0.180	Jan 2012	0.223	Nov 2012	-		0.223	Continuing	Continuing	Continuing
Subtotal			7.136	1.037		1.304		-		1.304			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	0.333	-		-		-		-	Continuing	Continuing	Continuing
Developmental Test & Evaluation	WR	NPGS:Monterey, CA	0.054	0.050	Feb 2012	0.055	Nov 2012	-		0.055	Continuing	Continuing	Continuing
Developmental Test & Evaluation	WR	OPTEVFOR:Norfolk, VA	0.012	0.030	Feb 2012	0.037	Dec 2012	-		0.037	Continuing	Continuing	Continuing
Subtotal			0.399	0.080		0.092		-		0.092			

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204574N: <i>Cryptologic Direct Support</i>	PROJECT 3091: <i>Advanced Cryptological Sys Eng (CCOP)</i>

Exhibit R-4, RDT&E Program Schedule Profile		DATE: September 2011																														
Appropriation/Budget Activity RDT&E, N / BA 7		Program Element Name and Number 0204574N Cryptologic Direct Support												Project Name and Number Advanced Cryptologic Systems Engineering (CCOP) / 3091																		
Fiscal Year	2011				2012				2013				2014				2015				2016				2017							
	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				
Prototype Phase	[REDACTED]				[REDACTED]				[REDACTED]				[REDACTED]				[REDACTED]				[REDACTED]				[REDACTED]							
System Development	▲ SDR				△ SDR				△ SDR				△ SDR				△ SDR				△ SDR				△ SDR							
Software Delivery	▲				△				△				△				△				△				△							
T&E Milestones Operational Assessment	OA	OA	▲			OA	△			OA	△			OA	△			OA	△			OA	△			OA	△			OA	△	

Exhibit R-4, Program Schedule Profile

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204574N: <i>Cryptologic Direct Support</i>	PROJECT 3091: <i>Advanced Cryptological Sys Eng (CCOP)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 3091				
Prototype Phase - 2011	1	2011	4	2011
Prototype Phase - 2012	1	2012	4	2012
Prototype Phase - 2013	1	2013	4	2013
Prototype Phase - 2014	1	2014	4	2014
Prototype Phase - 2015	1	2015	4	2015
Prototype Phase - 2016	1	2016	4	2016
Prototype Phase - 2017	1	2017	4	2017
System Design Review (SDR) - 2011	2	2011	2	2011
System Design Review (SDR) - 2012	2	2012	2	2012
System Design Review (SDR) - 2013	2	2013	2	2013
System Design Review (SDR) - 2014	2	2014	2	2014
System Design Review (SDR) - 2015	2	2015	2	2015
System Design Review (SDR) - 2016	2	2016	2	2016
System Design Review (SDR) - 2017	2	2017	2	2017
Software Delivery - 2011	3	2011	4	2011
Software Delivery - 2012	3	2012	4	2012
Software Delivery - 2013	3	2013	4	2013
Software Delivery - 2014	3	2014	4	2014
Software Delivery - 2015	3	2015	4	2015
Software Delivery - 2016	3	2016	4	2016
Software Delivery - 2017	3	2017	4	2017

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204574N: <i>Cryptologic Direct Support</i>	PROJECT 3091: <i>Advanced Cryptological Sys Eng (CCOP)</i>

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Operational Assessment (OA) - 2011	3	2011	3	2011
Operational Assessment (OA) - 2012	3	2012	3	2012
Operational Assessment (OA) - 2013	3	2013	3	2013
Operational Assessment (OA) - 2014	3	2014	3	2014
Operational Assessment (OA) - 2015	3	2015	3	2015
Operational Assessment (OA) - 2016	3	2016	3	2016
Operational Assessment (OA) - 2017	3	2017	3	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY			R-1 ITEM NOMENCLATURE								
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>			PE 0204575N: <i>Elect Warfare Readiness Supt</i>								
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	47.973	18.142	19.843	-	19.843	14.397	11.935	11.461	11.636	Continuing	Continuing
2263: <i>Information Warfare System</i>	47.973	18.142	19.843	-	19.843	14.397	11.935	11.461	11.636	Continuing	Continuing

A. Mission Description and Budget Item Justification

Research, assess, and develop information warfare capabilities.

B. Program Change Summary (\$ in Millions)

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	39.398	18.142	19.985	-	19.985
Current President's Budget	47.973	18.142	19.843	-	19.843
Total Adjustments	8.575	-	-0.142	-	-0.142
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	9.252	-			
• SBIR/STTR Transfer	-0.456	-			
• Program Adjustments	-	-	-	-	-
• Rate/Misc Adjustments	-	-	-0.142	-	-0.142
• Congressional General Reductions Adjustments	-0.221	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204575N: <i>Elect Warfare Readiness Supt</i>	PROJECT 2263: <i>Information Warfare System</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2263: <i>Information Warfare System</i>	47.973	18.142	19.843	-	19.843	14.397	11.935	11.461	11.636	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Information Operations (IO) Mission Management: Develops command and control mechanism for remote use of Electronic Attack (EA) and cyber assets. This includes frequency, antenna alignment and network protocols. Develops a modeling and simulation laboratory for the program office to use in the development, intended effect, and risk reduction of new EA capabilities. This effort will be terminated in FY12.

IO Counter Measure Capability Research and Development. Develops software to account for antenna modeling, weather calculations, radio frequency modeling, signals mapping and terrain modeling for warfighter use in configuring optimal EA from afloat.

Maritime Cryptologic Systems for the 21st Century Systems Development and Support: Develops and fields spiral EA and cyber capabilities against Fleet Forces Command prioritized signals, networks, and target sets. EA capabilities will be integrated into a software architecture baseline that is deployed on subsurface, airborne and surface IO platforms (Classic Troll, Banshee and Ships Signal Exploitation Equipment Increment E and Increment F). Also included is the Navy's investment in Integrated Communications and Data System proof of concept system and Office of the Chief of Naval Operations N2/N6 sponsored PACSAIL research project.

Research, Analysis and Research and Development Technical Support: Conducts vulnerability analysis and reverse engineering on emerging threats and targets and provides specialized technical, engineering and management capabilities to the program management office. (Specific details held at a higher classification level.)

Computer Network Operations: Funds development and testing of computer networks for modeling, simulation, and tailoring of Cyber capabilities. Develops specific Cyber tools, techniques, and operators in support of Fleet Cyber Command and Commander, TENTH Fleet requirements. (Specific development details held at a higher classification level.) Conducts vulnerability analyses and reverse engineering on improvised explosive devices (Specific details held at a higher classification level.)

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

	FY 2011	FY 2012	FY 2013
<p>Title: Information Warfare System/IO Mission Management</p> <p style="text-align: right;">Articles:</p> <p>Description: IO Mission Management: Develops command and control mechanism for remote use of Electronic Attack and cyber assets. This includes frequency, antenna alignment and network protocols. Develops a modeling and simulation laboratory for the program office to use in the development, intended effect, and risk reduction of new EA capabilities.</p> <p>FY 2011 Accomplishments:</p>	<p>3.134</p> <p>0</p>	<p>-</p>	<p>-</p>

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204575N: <i>Elect Warfare Readiness Supt</i>	PROJECT 2263: <i>Information Warfare System</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
Continued the following programs task requirements: Radio Frequency Propagation Modeling Maritime Cryptologic Systems for the 21st Century Systems Planning, Optimization and Tasking Services Contractor Engineering Support				
Title: Electronic Warfare/Information Operation Counter Measure Capability Research & Development Description: Information Operations (IO) Counter Measure Capability Research and Development: Develops and tests IO Countermeasure capabilities across various platforms. Develops specific waveforms to attack adversary systems. Develops and uses modeling and simulation techniques to prototype and test emergent waveforms. FY 2011 Accomplishments: Continued: Modeling and Simulation Lab (Applied/projected level of effort) Information Warfare (IW)/IO Electronic Attack (EA) capability development (Details held at higher classification level) Waveform Weapon Development FY 2012 Plans: Continued: Modeling and Simulation Lab (Applied/projected level of effort) IW/IO EA and cyber capability development (Details held at higher classification level) Waveform Weapon Development FY 2013 Plans: Continued: Modeling and Simulation Lab (Applied/projected level of effort) IW/IO EA capability development (Details held at higher classification level) Waveform Weapon Development		17.188 0	4.631 0	4.523 0
Title: Electronic Warfare Readiness/MCS-21 Systems Development Description: Maritime Cryptologic Systems for the 21st Century Systems Development: Develops and fields spiral EA and cyber capabilities against Fleet Forces Command prioritized signals, networks and target sets. Capabilities will be integrated into a software architecture baseline that is deployed on subsurface, airborne and surface IO platforms (Classic Troll, Banshee and Ships Signal Exploitation Equipment Increment E and Increment F).		13.857 0	3.956 0	4.992 0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204575N: <i>Elect Warfare Readiness Supt</i>	PROJECT 2263: <i>Information Warfare System</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<p><i>FY 2011 Accomplishments:</i> Continued: Electronic Attack (EA) Systems Development (Details held at higher classification level) EA antenna development - Spiral capability upgrade of Photonics antenna Information Warfare (IW)/Information Operations (IO) EA capability development & integration (Details held at higher classification level) Contractor Systems Engineering & OPS Development Testing</p> <p><i>FY 2012 Plans:</i> Continue: IW/IO EA capability development & integration (Details held at higher classification level)</p> <p><i>FY 2013 Plans:</i> Continue: IW/IO EA capability development & integration (Details held at higher classification level)</p>				
<p><i>Title:</i> Electronic Warfare/ Research, Analysis & R&D Technical Support</p> <p align="right"><i>Articles:</i></p> <p><i>Description:</i> Research, Analysis and Research and Development Technical Support. Conducts vulnerability analysis and reverse engineering on emerging threats and targets and provides specialized technical, engineering and management capabilities to the program management office. (Specific details held at a higher classification level.)</p> <p><i>FY 2011 Accomplishments:</i> Continued: Technical and intelligence related studies and contractor engineering, technical and management capabilities. Research and Analysis (Details held at higher classification level)</p> <p><i>FY 2012 Plans:</i> Continue: Technical and intelligence related studies and contractor engineering, technical and management capabilities. Research and Analysis (Details held at higher classification level)</p> <p><i>FY 2013 Plans:</i> Continue: Technical and intelligence related studies and contractor engineering, technical and management capabilities.</p>		6.828 0	6.388 0	6.588 0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204575N: <i>Elect Warfare Readiness Supt</i>	PROJECT 2263: <i>Information Warfare System</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Research and Analysis (Details held at higher classification level)			
<p>Title: Electronic Warfare/ Computer Network Operations (CNO)</p> <p align="right">Articles:</p>	6.966 0	3.167 0	3.740 0
<p>Description: Computer Network Operations (CNO): Funds development and testing of computer networks for modeling, simulation, and tailoring of Cyber capabilities. Develops specific Cyber tools, techniques, and operators in support of Fleet Cyber Command and Commander, TENTH Fleet requirements. (Specific development details held at a higher classification level).</p> <p>FY 2011 Accomplishments: Continued: CNO Research and Development Integrated Testing Facility Computer Network Attack Capabilities Development (Details held at higher classification level). Demonstration of Advanced Computer Network Operations Concept (Details held at higher classification level). Conduct vulnerability analysis and reverse engineering on improvised explosive devices (Details held at higher classification level).</p> <p>FY 2012 Plans: Continue: CNO Research and Development Integrated Testing Facility Computer Network Attack Capabilities Development (Details held at higher classification level). Demonstration of Advanced Computer Network Operations Concept (Details held at higher classification level).</p> <p>FY 2013 Plans: Continue: CNO Research and Development Integrated Testing Facility Computer Network Attack Capabilities Development (Details held at higher classification level). Demonstration of Advanced Computer Network Operations Concept (Details held at higher classification level).</p>			
Accomplishments/Planned Programs Subtotals	47.973	18.142	19.843

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204575N: <i>Elect Warfare Readiness Supt</i>	PROJECT 2263: <i>Information Warfare System</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• RDTEN/0604270N/1742: <i>Electronic Warfare Technical Development</i>	4.719	1.784	1.702	0.000	1.702	1.649	1.552	1.542	1.568	Continuing	Continuing

D. Acquisition Strategy

These programs are designated non-ACAT and operate under streamlined acquisition. This designation supports a streamlined acquisition process using the Advanced Concept Technology Demonstration documentation of the Defense Acquisition Guidance.

E. Performance Metrics

The Navy Offensive Cyber and Information Warfare Program discovers adversary vulnerabilities, develops capabilities to exploit these vulnerabilities, and transitions these capabilities for operational use. Investments are made in high risk/high payoff non-kinetic opportunities and result in technologies and capabilities that provide unique, innovative, life-saving, and potentially cost saving applications into Department of Navy and Department of Defense classified acquisition and intelligence programs. Measures include quality and impact of new ideas and approaches, the success of the technology application in satisfying Combatant Commanders and Fleet requirements, and successful cost effective transition of the capability into operational systems. The goal of these investments is to provide to Commanders non-kinetic options to influence adversaries and prevent escalation of crises. Due to the nature and classification of these efforts qualitative measures are used. It is the intent through the development of modeling and simulation scenarios and capabilities to develop quantitative metrics. The success of this depends heavily on the insight obtained via various intelligence community efforts.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204575N: <i>Elect Warfare Readiness Supt</i>	PROJECT 2263: <i>Information Warfare System</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	Classified:Classified	20.728	1.000	Oct 2011	1.400	Oct 2012	-		1.400	Continuing	Continuing	Continuing
Ancillary Hardware Development	Various	Classified:Classified	12.375	-		-		-		-	0.000	12.375	
Systems Engineering	SS/CPFF	Applied Research Laboratory:University Park, PA	1.070	0.365	Jan 2012	0.500	Nov 2012	-		0.500	Continuing	Continuing	Continuing
Systems Engineering	SS/CPFF	ARGON:Fairfax, VA	3.865	-		-		-		-	Continuing	Continuing	Continuing
Systems Engineering	WR	NRL:Washington, DC	3.395	0.392	Oct 2011	0.392	Oct 2012	-		0.392	Continuing	Continuing	Continuing
Subtotal			41.433	1.757		2.292		-		2.292			

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	SS/CPFF	ARGON:Fairfax, VA	11.428	1.348	Dec 2011	1.450	Oct 2012	-		1.450	Continuing	Continuing	Continuing
Software Development	SS/CPFF	L3 Communications:New York, NY	64.682	0.550	Dec 2011	0.550	Dec 2012	-		0.550	Continuing	Continuing	Continuing
Development Support	WR	NRL:Washington, DC	1.060	0.550	Nov 2011	0.550	Nov 2012	-		0.550	Continuing	Continuing	Continuing
Development Support	Various	Classified:Classified	9.892	0.607	Nov 2011	0.611	Nov 2012	-		0.611	Continuing	Continuing	Continuing
Software Development	SS/CPFF	ARL:University Park, PA	3.100	0.400	Nov 2011	0.400	Nov 2012	-		0.400	Continuing	Continuing	Continuing
Software Development	SS/CPFF	ARGON:Fairfax, VA	14.958	1.833	Nov 2011	3.051	Nov 2012	-		3.051	Continuing	Continuing	Continuing
Software Development	WR	NRL:Washington, DC	1.945	-	Oct 2011	-		-		-	0.000	1.945	
Software Development	Various	Classified:Classified	21.265	4.607	Oct 2011	3.321	Oct 2012	-		3.321	Continuing	Continuing	Continuing
Research, Studies and Vulnerability	WR	NRL:Washington, DC	13.214	1.654	Oct 2011	1.546	Oct 2012	-		1.546	Continuing	Continuing	Continuing
Development Support	WR	SSC PAC:San Diego, CA	2.441	1.111	Oct 2011	2.147	Oct 2012	-		2.147	0.000	5.699	
Development Support	C/BA	NSWC:Philadelphia, PA	1.829	1.400	Oct 2011	1.400	Oct 2012	-		1.400	0.000	4.629	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204575N: <i>Elect Warfare Readiness Supt</i>	PROJECT 2263: <i>Information Warfare System</i>
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Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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			145.814	14.060		15.026		-		15.026			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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	NAWC:China Lake, CA	5.402	0.100	Dec 2011	0.100	Dec 2012	-		0.100	Continuing	Continuing	Continuing
Subtotal			5.402	0.100		0.100		-		0.100			

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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 and Program Management	Various	Classified:Classified	5.121	1.000	Nov 2011	1.000	Nov 2012	-		1.000	Continuing	Continuing	Continuing
Acquisition Workforce Fund 2009	Various	Various:Various	0.117	-		-		-		-	0.000	0.117	
Project Engineering	Various	Classified:Classified	1.675	1.225	Oct 2011	1.425	Oct 2012	-		1.425	Continuing	Continuing	Continuing
Subtotal			6.913	2.225		2.425		-		2.425			

			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			199.562	18.142		19.843		-		19.843			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204575N: <i>Elect Warfare Readiness Supt</i>	PROJECT 2263: <i>Information Warfare System</i>
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Proj 2263	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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																												
IO Mission Management																												
MCS21 Planning, Optimization, and Tasking Services (MPOTS)	MCS21 MPOTS																											
IMPACTS																												
IO CM Capability Research & Development																												
Modeling and Simulation Lab																												

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204575N: <i>Elect Warfare Readiness Supt</i>	PROJECT 2263: <i>Information Warfare System</i>
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Page/Group/Row	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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
Waveform and Cyber Development							FIOC Del. ▲				FIOC Del. ▲				FIOC Del. ▲				FIOC Del. ▲				FIOC Del. ▲				FIOC Del. ▲	
Computer Network Operations A/CNA																												
CNO Capabilities Development		Spiral Enhancement ▲					Spiral Enhancement ▲				Spiral Enhancement ▲				Spiral Enhancement ▲				Spiral Enhancement ▲				Spiral Enhancement ▲				Spiral Enhancement ▲	
Test and Evaluation Milestones																												
DT Airborne IO Capabilities/MCS21 IO Capabilities			Comms DT ▲	DT Host and Field Site Test ▲							DT ▲				DT Host and Field Site Test ▲	Test & Evaluation Milestones ▲							Spiral Enhancement ▲					
Production Milestones																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204575N: <i>Elect Warfare Readiness Supt</i>	PROJECT 2263: <i>Information Warfare System</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2263				
IO Mission Management: MCS21 Planning, Optimization, and Tasking Services (MPOTS): MCS21 Planning, Optimization, and Tasking Services (MPOTS)	1	2011	4	2011
IO CM Capability Research & Development: Modeling and Simulation Lab: Modeling and Simulation Lab	1	2011	4	2013
Page/Group/Row				
Waveform and Cyber Development: FIOC Delivery #2	3	2012	3	2012
Waveform and Cyber Development: FIOC Delivery #3	2	2013	2	2013
Waveform and Cyber Development: FIOC Delivery #4	3	2014	3	2014
Waveform and Cyber Development: FIOC Delivery #5	2	2015	2	2015
Waveform and Cyber Development: FIOC Delivery #6	3	2016	3	2016
Waveform and Cyber Development: FIOC Delivery #7	1	2017	1	2017
Computer Network Operations: CNO Capabilities Development: CNO Spiral Enhancements #2	2	2011	2	2011
Computer Network Operations: CNO Capabilities Development: CNO Spiral Enhancements #3	4	2012	4	2012
Computer Network Operations: CNO Capabilities Development: CNO Spiral Enhancements #4	4	2013	4	2013
Computer Network Operations: CNO Capabilities Development: CNO Spiral Enhancements #5	2	2015	2	2015
Computer Network Operations: CNO Capabilities Development: CNO Spiral Enhancements #6	2	2016	2	2016
Computer Network Operations: CNO Capabilities Development: CNO Spiral Enhancements #7	2	2017	2	2017

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0204575N: <i>Elect Warfare Readiness Supt</i>	PROJECT 2263: <i>Information Warfare System</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Test and Evaluation Milestones: DT Airborne IO Capabilities/MCS21 IO Capabilities: MCS21 IO Capabilities (Test) #2	4	2011	4	2011
Test and Evaluation Milestones: DT Airborne IO Capabilities/MCS21 IO Capabilities: MCS21 IO Capabilities (Test) #3	1	2012	1	2012
Test and Evaluation Milestones: DT Airborne IO Capabilities/MCS21 IO Capabilities: MCS21 IO Capabilities (Test) #4	3	2013	3	2013
Test and Evaluation Milestones: DT Airborne IO Capabilities/MCS21 IO Capabilities: MCS21 IO Capabilities (Test) #5	4	2014	4	2014
Test and Evaluation Milestones: DT Airborne IO Capabilities/MCS21 IO Capabilities: MCS21 IO Capabilities (Test) #6	1	2015	1	2015
Test and Evaluation Milestones: DT Airborne IO Capabilities/MCS21 IO Capabilities: CNO Spiral Enhancements #6	3	2016	3	2016

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY			R-1 ITEM NOMENCLATURE								
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>			PE 0205601N: <i>Harm Improvement</i>								
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	73.189	11.147	11.477	-	11.477	16.551	13.432	6.571	6.487	Continuing	Continuing
1780: <i>HARM Improvement</i>	26.277	1.412	1.382	-	1.382	1.345	1.362	1.429	1.459	Continuing	Continuing
2185: <i>AARGM</i>	22.397	6.684	6.995	-	6.995	7.426	5.470	5.142	5.028	Continuing	Continuing
3056: <i>Advanced Precision Kill Weapons System</i>	5.531	3.051	-	-	-	-	-	-	-	0.000	8.582
3212: <i>MEDUSA JCTD</i>	18.984	-	3.100	-	3.100	-	-	-	-	0.000	22.084
3412: <i>Hellfire-R Integration</i>	-	-	-	-	-	7.780	6.600	-	-	0.000	14.380

A. Mission Description and Budget Item Justification

Research, Development, Test and Evaluation funding for the Joint Service Pre-Planned Product Improvement program which will include near and far term performance improvements, cost reduction, and studies that establish future development requirements. Specific initial efforts include lower cost seeker component development and seeker aided fuzing to enhance warhead performance in low angle impacts and against certain ship targets. This excludes civilian and military manpower and their related costs and military construction costs which will be included in appropriate management and support elements.

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	14.207	11.147	8.433	-	8.433
Current President's Budget	73.189	11.147	11.477	-	11.477
Total Adjustments	58.982	-	3.044	-	3.044
• Congressional General Reductions	-	-	-	-	-
• Congressional Directed Reductions	-	-	-	-	-
• Congressional Rescissions	-	-	-	-	-
• Congressional Adds	-	-	-	-	-
• Congressional Directed Transfers	-	-	-	-	-
• Reprogrammings	61.050	-	-	-	-
• SBIR/STTR Transfer	-	-	-	-	-
• Program Adjustments	-	-	3.013	-	3.013
• Rate/Misc Adjustments	-	-	0.031	-	0.031
• Congressional General Reductions Adjustments	-0.068	-	-	-	-
• Congressional Directed Reductions Adjustments	-2.000	-	-	-	-

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>
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Change Summary Explanation

Technical: Not applicable.

Schedule:

High Speed Anti-Radiation Missile Improvement - Not Applicable.

Advanced Anti-Radiation Guided Missile - Re-entered Operational Test C on 10 August 2011, with planned successful completion in 2Q FY 2012. IOC slipped from 3Q FY 2011 to 3Q FY 2012, due to decertification from OT in September 2010 and the change in Initial Operational Capability (IOC) definition by Commander, Fleet Forces Command; Commander, Naval Air Forces and OPNAV N8. LRIP II deliveries commenced in 1Q FY 2012 vice 3Q FY 2011. FRP decision moved from 2Q FY 2012 to 3Q FY 2012 and Full Operational Capability has moved from 4Q FY 2013 to 3Q FY 2014, as a result of IOC change.

Advanced Precision Kill Weapons Systems - Not applicable.

Medusa - Not applicable

Hellfire-R Integration: Not applicable

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 1780: <i>HARM Improvement</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
1780: <i>HARM Improvement</i>	26.277	1.412	1.382	-	1.382	1.345	1.362	1.429	1.459	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

High Speed Anti-Radiation Missile (HARM) Improvement is a Navy led joint service program with the Air Force. The program commenced production in FY 1983. Program element 0205601N was used until FY 1990 to develop and test one hardware and two software upgrades to the HARM (AGM-88B, Block 3 & AGM-88C, Block 4) as Engineering Change Proposals (ECPs). Another ECP software program (Block 3A & 5) was developed (FY 1996 through FY 1999) to modify HARM software in order to meet operational requirements. HARM Block 3A/5 software was distributed to the Fleet in FY 2000. The Block 5 tactical software upgrade gives HARM improved geographic specificity and improved capability against advanced waveforms. HARM Block 5A is currently in test and projected to be introduced to the fleet in FY12.

HARM Improvement includes efforts to conduct Foreign Military Assessment (FMA) analysis and engineering to exploit vulnerabilities of foreign anti-radar threats. HARM Improvement includes funding for threat assessment, operational updates and integration efforts.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: HARM (FMA)	1.547	1.412	1.382	-	1.382
Articles:	0	0	0		0
FY 2011 Accomplishments: Continue to conduct FMA analysis and engineering to exploit vulnerabilities of foreign anti-radar threats. HARM Improvement includes funding for threat assessment, operational updates and integration efforts.					
FY 2012 Plans: Continue to conduct FMA analysis and engineering to exploit vulnerabilities of foreign anti-radar threats. HARM Improvement includes funding for threat assessment, operational updates and integration efforts.					
FY 2013 Base Plans: Continue to conduct FMA analysis and engineering to exploit vulnerabilities of foreign anti-radar threats. HARM Improvement includes funding for threat assessment, operational updates and integration efforts.					
Title: Lazer Guided ZUNI - PU 3056	24.730	-	-	-	-
Articles:	0				
FY 2011 Accomplishments:					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 1780: <i>HARM Improvement</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Conduct a competition for up to three vendors to conduct ground launched demonstrations of their guidance section for Lazer Guided Zuni.					
Accomplishments/Planned Programs Subtotals	26.277	1.412	1.382	-	1.382

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

N/A

D. Acquisition Strategy

HARM software updates are provided through the Software Support Activity at Naval Air Warfare Center - Weapons Division (NAWC-WD), China Lake, CA.

E. Performance Metrics

Successfully complete Developmental Test/Operational Test.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 1780: <i>HARM Improvement</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	Various	Various:Various	24.730	-		-		-		-	0.000	24.730	
Systems Engineering	WR	NAWC-WD:China Lake, CA	0.215	1.211	Nov 2011	1.185	Nov 2012	-		1.185	Continuing	Continuing	Continuing
Subtotal			24.945	1.211		1.185		-		1.185			

Remarks
NOTE: Systems Engineering Various is a "place holder" for FY11 ATR Funding received by the FY11 OMNIBUS for Lazer Guided ZUNI. Funds were placed in the HARM Improvement Project Unit (1780) erroneously. Funds will be executed by APKWS, Project Unit 3056.

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	WR	NAWC-WD:China Lake, CA	18.363	0.192	Nov 2011	0.189	Nov 2012	-		0.189	Continuing	Continuing	Continuing
Subtotal			18.363	0.192		0.189		-		0.189			

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	Various:Various	0.412	0.009	Nov 2011	0.008	Nov 2012	-		0.008	Continuing	Continuing	Continuing
Subtotal			0.412	0.009		0.008		-		0.008			

Remarks
Contract Type for Travel is TO

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		43.720	1.412		1.382		-	1.382			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy					DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>			PROJECT 1780: <i>HARM Improvement</i>			
	Total Prior Years Cost	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 1780: <i>HARM Improvement</i>
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HARM IMPROVEMENT	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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																												
Radar System Evaluation	FMA																											
Systems Development																												
Test & Evaluation																												
LGZ Demonstration																												
Production Milestones																												
Deliveries																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 1780: <i>HARM Improvement</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
HARM IMPROVEMENT				
Acquisition Milestones: Radar System Evaluation: Radar System Evaluation - Foreign Military Assessment	1	2011	4	2017
Test & Evaluation: Lazer Guided Zuni (LGZ)	2	2012	2	2013

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 2185: <i>AARGM</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2185: <i>AARGM</i>	22.397	6.684	6.995	-	6.995	7.426	5.470	5.142	5.028	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The AGM-88E Advanced Anti-Radiation Guided Missile (AARGM) Project transitioned a Phase III Small Business Innovative Research program to develop and demonstrate a multi-mode guidance section on a HARM airframe to System Development and Demonstration (SD&D) in FY 2003. The AARGM SD&D program is designed to integrate multi-mode guidance (passive Anti-Radiation Homing (ARH)/active Millimeter Wave (MMW) Radar/Global Positioning System (GPS)/Inertial Navigation System) on the HARM AGM-88 missile. AARGM weapon system capabilities include: active MMW terminal guidance, counter shutdown, expanded threat coverage, enhanced ARH, netted targeting real-time feed via Integrated Broadcast Service (IBS) prior to missile launch, weapon impact assessment transmitted prior to detonation, GPS/point-to-point weapon navigation, and weapon employment with impact avoidance zone/missile impact zones.

In June 2003, a successful Milestone B transitioned AARGM to a SD&D Acquisition Category 1C program. ATK Missile Systems Company was awarded the AARGM SD&D contract valued at \$222.6M. In May 2004, the contract baseline was increased to \$231.9M to accelerate incorporation of an embedded IBS-Receiver, enabling the warfighter to directly receive National intelligence data, providing additional AARGM targeting data to increase overall pilot situational awareness. Recent modifications have changed the current baseline to \$232.3M. The AARGM program includes 40 SD&D test articles and 1,879 production modification kits (1871 All-Up-Rounds/Captive Air Training Missiles and 8 spares).

Milestone C was achieved 4Q FY 2008, followed by a combined FY08/FY09 Low Rate Initial Production (LRIP) contract award in 1Q FY 2009. Developmental testing was completed in 2009. As a result of flight tests, a decision was made to defer a Key Performance Parameter (KPP-3) and Integrated Broadcast Service-Receiver until Follow-On Test and Evaluation beginning in FY 2013. Program began Initial Operational Test and Evaluation in 3Q FY 2010 but was decertified in 4Q FY 2010 as a result of intermittent hardware and software failures. Failures were corrected via software/firmware updates and the system resumed Integrated Test and Evaluation 2Q FY2011. Operational Test (OT-C) resumed in 4Q FY 2011. LRIP II deliveries began in 4Q FY 2011. LRIP III contract was awarded 4Q FY 2011, with deliveries scheduled for 3Q FY 2012. Full Rate Production (FRP) decision moved to 3Q FY 2012, with FRP Lot 1 contract award planned for 3Q FY 2012 and deliveries in 3Q FY 2013.

In FY 2012-FY 2017, the AGM-88E AARGM program plans to develop and demonstrate the capability to engage and destroy non-traditional and Overseas Contingency Operations targets through the Destruction of Enemy Air Defenses (DEAD) missions. These developments continue Future Naval Capability Science and Technology investments by the Office of Naval Research initiated in FY 2006.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: AARGM SD&D	9.772	-	-	-	-
Articles:	0				

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy				DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>		PROJECT 2185: <i>AARGM</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					
FY 2011 Accomplishments: Three hundred hours flight test for DT/ITE/IOT&E. Four Live Fire test events.					
Title: Threat Data Library					
Articles:					
	0.600	2.887	-	-	-
	0	0			
FY 2011 Accomplishments: Continued update to Electronic Intelligence files and Millimeter Wave signatures.					
FY 2012 Plans: Continue to update Electronic Intelligence files and Millimeter Wave signatures to identify track and engage new and/or improved threat radars. Continue test and assessment of threat systems. Continue to update AARGM Threat Data Library.					
Title: AARGM Derivative Program					
Articles:					
	4.019	3.797	3.091	-	3.091
	0	0	0		0
FY 2011 Accomplishments: Demonstration (this is classified).					
FY 2012 Plans: Continue to develop the capability to carry-out Destruction of Enemy Defenses (DEAD) missions and to attack non-traditional and Overseas Contingency Operations (OCO) targets. Also develop new propulsion systems and data links to support warfighter needs against advancing threat systems. Updates to targets.					
FY 2013 Base Plans: Continue to develop the capability to carry-out DEAD missions and to attack non-traditional and OCO targets. Also develop new propulsion systems and data links to support warfighter needs against advancing threat systems. Updates to targets.					
Title: Capabilities Procurement Document (CPD) Requirements					
Articles:					
	8.006	-	3.904	-	3.904
	0		0		0
FY 2011 Accomplishments: Corrected IOT&E software deficiencies.					
FY 2013 Base Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 2185: <i>AARGM</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Continue development of Key Performance Parameter (KPP-3) and Integrated Broadcast Service-Receiver requirements in accordance with the CPD.					
Accomplishments/Planned Programs Subtotals	22.397	6.684	6.995	-	6.995

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

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013 Base</u>	<u>FY 2013 OCO</u>	<u>FY 2013 Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• WPN 2327: <i>HARM Mods</i>	51.907	71.561	86.721	0.000	86.721	112.022	126.324	158.073	160.820	544.360	1,422.970

D. Acquisition Strategy

The AARGM program started as a Phase I Small Business Innovative Research (SBIR), Advanced Technology Program, evolved into a Phase III SBIR program, and transitioned into a System Development and Demonstration (SD&D) Acquisition Category 1C program in June 2003. The AARGM SD&D fulfills U.S. Navy operational requirements and incorporates AARGM Advanced Technology Development and Quick Bolt Advanced Concept Technology Demonstration- demonstrated system requirements. Government responsibilities for System Development and Demonstration have included monitoring, technical assessment, and validation of contractor technology development and testing. Milestone C was achieved 4Q FY 2008, followed by a combined FY08/FY09 Low Rate Initial Production (LRIP) contract award in 1Q FY 2009. LRIP 1 deliveries commenced 3Q FY 2010.

E. Performance Metrics

Achieved Milestone C in 2008. Completed Developmental Testing in 2009. Successfully completed Operational Test Readiness Review in 2010. Successfully complete Operational Test by the end of 2Q FY 2012.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 2185: <i>AARGM</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	NSMA:Arlington, VA	3.210	0.916	Nov 2011	-		-		-	9.416	13.542	
Systems Engineering	WR	NAWC-WD:China Lake, CA	61.887	4.690	Nov 2011	4.412	Nov 2012	-		4.412	21.555	92.544	
PY Product Development	Various	Various:Various	508.323	-		-		-		-	0.000	508.323	
Systems Engineering	C/BOA	ATK:Woodland Hills, CA	13.214	-		-		-		-	0.000	13.214	
Subtotal			586.634	5.606		4.412		-		4.412	30.971	627.623	

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	0.711	-		-		-		-	0.100	0.811	
Prior Years Support	Various	Various:Various	6.160	-		-		-		-	0.000	6.160	
Subtotal			6.871	-		-		-		-	0.100	6.971	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	NAWC-WD:China Lake, CA	22.332	0.342	Nov 2011	1.623	Nov 2012	-		1.623	1.815	26.112	
Operational Test & Evaluation	WR	COMOPTEVFOR:Norfolk, VA	16.174	0.502	Nov 2011	0.773	Nov 2012	-		0.773	4.587	22.036	
Prior Years T & E	Various	Various:Various	7.185	-		-		-		-	0.000	7.185	
Subtotal			45.691	0.844		2.396		-		2.396	6.402	55.333	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 2185: <i>AARGM</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 & Technical Services	Various	Various:Various	3.176	0.015	Feb 2012	-		-		-	0.020	3.211	
Program Management Support	Various	Various:Various	3.276	0.175	Feb 2012	0.147	Feb 2013	-		0.147	0.200	3.798	
Travel	WR	NAVAIR HQ:Patuxent River, MD	1.636	0.044	Nov 2011	0.040	Nov 2012	-		0.040	0.040	1.760	
Prior Years Mgmt	Various	Various:Various	3.276	-		-		-		-	0.000	3.276	
Subtotal			11.364	0.234		0.187		-		0.187	0.260	12.045	

Remarks
Contract Type for Travel is TO

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	650.560	6.684		6.995		-		6.995	37.733	701.972	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 2185: <i>AARGM</i>
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AARGM	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017							
	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																																
Test & Evaluation																																
Operational Evaluation	IOT&E				OT-C																											
Production Milestones																																
Contract Award																																
Deliveries																																

2013PB - 0205601N - 2185

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 2185: <i>AARGM</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
AARGM				
Acquisition Milestones: Milestones: Initial Operational Capability	3	2012	3	2012
Acquisition Milestones: Milestones: Full Rate Production Decision	3	2012	3	2012
Acquisition Milestones: Milestones: Full Operational Capability	3	2014	3	2014
Test & Evaluation: Operational Evaluation: Integrated Operational Test and Evaluation	1	2011	3	2011
Test & Evaluation: Operational Evaluation: Operational Evaluation Restart	4	2011	2	2012
Production Milestones: Contract Award: Low Rate Initial Production 3	1	2012	1	2012
Production Milestones: Contract Award: Full Rate Production Lot 1	3	2012	3	2012
Production Milestones: Contract Award: Full Rate Production Lot 2	3	2013	3	2013
Production Milestones: Contract Award: Full Rate Production Lot 3	3	2014	3	2014
Deliveries: Low Rate Initial Production 1 Delivery (WPN)	1	2011	4	2011
Deliveries: Low-Rate Initial Production 2 Delivery (WPN)	1	2012	4	2012
Deliveries: Low Rate Initial Production 3 Delivery (WPN)	3	2012	3	2013
Deliveries: Full Rate Production Deliveries - Lot 1 (WPN)	3	2013	3	2014
Deliveries: Full Rate Production Deliveries - Lot 2 (WPN)	3	2014	3	2015
Deliveries: Full Rate Production Deliveries - Lot 3 (WPN)	3	2015	3	2016

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>				PROJECT 3056: <i>Advanced Precision Kill Weapons System</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
3056: <i>Advanced Precision Kill Weapons System</i>	5.531	3.051	-	-	-	-	-	-	-	0.000	8.582
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Advanced Precision Kill Weapons System (APKWS) II was an Army System Development & Demonstration (SD&D) program to develop a low cost Semi Active Laser precision guidance section for existing 2.75-inch unguided rockets. APKWS II will provide an inexpensive, small, lightweight precision-kill weapon that is effective against soft and lightly armored targets, and which enhances crew survivability with increased standoff range. APKWS II offers precision, maximum stored kills per aircraft sortie, minimum collateral damage potential, and increased effectiveness over legacy unguided rockets. The guidance package can be assembled with existing unguided rocket components (warhead and rocket motors) and can be fired from LAU-61/LAU-68. SD&D program was completed 3Q FY 2010, and Milestone C was approved in 3Q FY 2010. The Low Rate Initial Production (LRIP) 1 contract was awarded to BAE Systems in 4Q FY 2010. The LRIP II contract option was awarded to BAE Systems in 2Q FY 2011.

The Fixed Wing Joint Capability Technology Demonstration (JCTD) is a joint USN and USAF effort sponsored by OSD and U.S. Central Command which will modify the APKWS II from the Program of Record (POR) and conduct a demonstration on USMC AV-8B and USAF A-10 aircraft. Effort is funded with OSD funds in FY 2010 and will be funded from this program element in FY 2012.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: APKWS SD&D	5.531	3.051	-	-	-
Articles:	0	0			
FY 2011 Accomplishments: First LRIP deliveries received and shots fired with new MK152 warhead. First shots from UH-1Y (objective aircraft). First Article Testing complete.					
FY 2012 Plans: APKWS POR - Full-Rate Production decision and contract. APKWS JCTD - Technology demonstration and Military Utility Assessment.					
Accomplishments/Planned Programs Subtotals	5.531	3.051	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 3056: <i>Advanced Precision Kill Weapons System</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PANMC/015100: <i>Airborne Rockets (APKWS portion only)</i>	18.475	29.273	24.998	17.850	42.848	24.572	28.430	28.793	29.049	Continuing	Continuing

D. Acquisition Strategy

The Navy assumed the APKWS II program from the Army. The previously competed System Development & Demonstration (SD&D) Army contract to prime contractor was transferred to the Navy for continued management. The program was through Milestone B and meeting cost schedule and technical performance requirements. The Navy funded the remainder of the program to complete SD&D. The Low Rate Initial Production (LRIP) I contract was awarded to BAE Systems in 4Q FY 2010. The LRIP II contract was awarded to BAE Systems in 2Q FY 2011.

E. Performance Metrics

APKWS II Milestone C approved in April 2010.
 APKWS II LRIP I awarded in July 2010.
 APKWS II LRIP II awarded in January 2011.
 APKWS II Fixed Wing Joint Capability Technology Demonstration Military Utility Assessment is scheduled for FY 2012.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 3056: <i>Advanced Precision Kill Weapons System</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	BAE SYS:New Hampshire	22.780	0.949	Apr 2012	-		-		-	0.000	23.729	23.729
Prior Years Prod Dev	Various	Various:Various	4.106	-		-		-		-	0.000	4.106	
APKWS JCTD Contract	C/CPFF	BAE SYS:New Hampshire	6.561	-		-		-		-	0.000	6.561	6.561
Subtotal			33.447	0.949		-		-		-	0.000	34.396	

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Years Support	Various	Various:Various	0.624	0.100	Dec 2011	-		-		-	0.000	0.724	
Subtotal			0.624	0.100		-		-		-	0.000	0.724	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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-WD:China Lake, CA	3.781	0.758	Dec 2011	-		-		-	0.000	4.539	
Operational Testing	Various	Operational Test and Eval Force:Norfolk, VA	1.628	-		-		-		-	0.000	1.628	
Prior Years T&E	Various	Various:Various	3.900	-		-		-		-	0.000	3.900	
Subtotal			9.309	0.758		-		-		-	0.000	10.067	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 3056: <i>Advanced Precision Kill Weapons System</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	4.347	0.710	Dec 2011	-		-		-	0.000	5.057	
Program Management Support	Various	Various:Various	1.706	0.485	Dec 2011	-		-		-	0.000	2.191	
Travel	WR	NAVAIR HQ:Patuxent River, MD	0.300	0.049	Nov 2011	-		-		-	0.000	0.349	
Subtotal			6.353	1.244		-		-		-	0.000	7.597	

Remarks
Contract Type for Travel is TO

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	49.733	3.051		-		-		-	0.000	52.784	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 3056: <i>Advanced Precision Kill Weapons System</i>
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Advanced Precision Kill Weapons System	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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						IOC ▲	FRP ◆																					
System Development & Demonstration																												
Joint Capability Technology Demonstrations						Tech Demo																						
MUA ▼																												
Test & Evaluations Milestones																												
Operational Assessment																												
Initial Operational Test and Evaluation						IOT&E ▼																						
Production Milestones																												
Contract Awards		LRIP II ●					FRP I ●			FRP II ●			FRP III ●			FRP IV ●					FRP V ●							
Deliveries																												
Low-Rate Initial Production LRIP I		LRIP I (Qty 78 RD TEN) (Qty 247 PANMC)																										
Low-Rate Initial Production LRIP II						LRIP II (Qty 600 PANMC)																						
Full Rate Production													FRP I (Qty 1,000) (Qty 656 OCO)		FRP II (Qty 1,358) (Qty 1,000 OCO)					FRP III (Qty 1,311)				FRP IV (Qty 1,497)			FRP V (Qty 1,499)	

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 3056: <i>Advanced Precision Kill Weapons System</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Advanced Precision Kill Weapons System				
Acquisition Milestones: Milestones: Initial Operational Capability	2	2012	2	2012
Acquisition Milestones: Milestones: Full Rate Production (FRP) Decision	3	2012	3	2012
System Development & Demonstration: Joint Capability Technology Demonstrations: Joint Capability Technology Demonstration (JCTD)	1	2012	4	2012
System Development & Demonstration: Joint Capability Technology Demonstrations: JCTD Military Utility Assessment (MUA)	4	2012	4	2012
Test & Evaluations Milestones: Initial Operational Test and Evaluation: APKWS Initial Operational Test and Evaluation	2	2012	2	2012
Production Milestones: Contract Awards: Low Rate Initial Procurement 2 (PANMC)	2	2011	2	2011
Production Milestones: Contract Awards: Full Rate Production I	3	2012	3	2012
Production Milestones: Contract Awards: Full Rate Production II	3	2013	3	2013
Production Milestones: Contract Awards: Full Rate Production III	3	2014	3	2014
Production Milestones: Contract Awards: Full Rate Production IV	2	2015	2	2015
Production Milestones: Contract Awards: Full Rate Production V	2	2016	2	2016
Deliveries: Low-Rate Initial Production LRIP I: APKWS Low Rate Initial Procurement 1 (LRIP) Deliveries (RDTE)	2	2011	1	2012
Deliveries: Low-Rate Initial Production LRIP II: APKWS LRIP 2 Deliveries (PANMC)	2	2012	1	2013
Deliveries: Full Rate Production: FRP I Deliveries	3	2013	2	2014
Deliveries: Full Rate Production: FRP II Deliveries	3	2014	2	2015
Deliveries: Full Rate Production: FRP III Deliveries	3	2015	2	2016
Deliveries: Full Rate Production: FRP IV Deliveries	3	2016	2	2017
Deliveries: Full Rate Production: FRP V Deliveries	3	2017	4	2017

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 3212: <i>MEDUSA JCTD</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
3212: <i>MEDUSA JCTD</i>	18.984	-	3.100	-	3.100	-	-	-	-	0.000	22.084
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Medusa Joint Capability Technology Demonstration (JCTD) will demonstrate the Low Cost Guided Imaging Rockets (LOGIR) technology currently being developed at the Naval Air Warfare Center Weapons Division China Lake on the MH-60S. LOGIR provides "fire and forget" capability to 2.75-inch rockets in support of Sea Shield Pillar, increases platform lethality against Fast Attack Craft (FAC)/Fast Inshore Attack Craft (FIAC) threat, provides a low-cost Imaging InfraRed precision guidance section for the existing 2.75-inch unguided rockets and provides maximum precision kills per sortie, low cost, minimum collateral damage, increased efficiency, and increased standoff. OSD is also providing funding for this effort. Initial Program documentation (i.e. Performance Spec, Capabilities Development Document) will be developed within the scope of the JCTD.

FY13 funding is provided for the high capacity 2.75 inch Digital Rocket Launcher (DRL) provides incremental capability to MH-60S (unguided rockets and/or APKWS with spiral development to LOGIR). Addresses FAC/FIAC threat between Medusa JCTD and LOGIR Program of Record (POR). Reduces risk and lowers cost of LOGIR POR by separating DRL from POR.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<p>Title: MEDUSA JCTD</p> <p align="right">Articles:</p>	6.784 0	-	-	-	-
<p>FY 2011 Accomplishments: Continue demonstration of the LOGIR technology on the MH-60S. First ground shots of new prototype LOGIR weapon from Korean seven tube rocket launcher. Launcher electronics assembly used to pass targeting information to weapon's guidance section is a new design required for employment of LOGIR weapon.</p>					
<p>Title: Digital Rocket Launcher</p> <p align="right">Articles:</p>	12.200 0	-	3.100 0	-	3.100 0
<p>FY 2011 Accomplishments: The Digital Rocket Launcher Rapid Deployment Capability was approved by ASN(RDA). The Acquisition Strategy is currently being written for approval. The DRL Integrated Product Team was formed and the baseline IMS completed. DRL Technical Performance requirements have been derived to support the specific RDC operational need. The software Interface Control Document has been completed. Drawings and specifications (Technical Data Package [TDP] are being written/updated. Three CMBRE test units have been procured. Risk Management Board (RMB) has been formed and RMB reviews periodically held. First delivery order with</p>					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 3212: <i>MEDUSA JCTD</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Arnold Defense & Electronics (AD&E) will be awarded for test asset hardware and long lead item procurement. Lockheed Martin and Sikorsky aircraft are planned to go on contract (through PMA-299) 3Q FY2012 for software and hardware integration on the MH-60S. Component testing will begin towards the end of the FY and Test plan will be drafted.					
<i>FY 2013 Base Plans:</i> FY13 Baseline funding will be used for the development of a Digital Rocket Launcher for 2.75 rockets. Delivery order with AD&E will be awarded for Test asset manufacturing. Electronic circuit boards will be assembled, and test plan completed. Aircraft integration, Qualification testing and all additional test requirements to include shipboard certification testing will be completed. Class I Engineering Change Proposal will be created and completed. NATOPS, support equipment, maintenance plan and training will be updated to include DRL.					
Accomplishments/Planned Programs Subtotals	18.984	-	3.100	-	3.100

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

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013 Base</u>	<u>FY 2013 OCO</u>	<u>FY 2013 Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• RDTE 0603648D8Z: <i>Project#648, DUSD (AS&C)</i>	3.605	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	7.605
• RDTEN 0603790N: <i>NIPO Research and Development</i>	1.895	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.395

D. Acquisition Strategy

The MEDUSA Joint Capability Technology Demonstration is a technology demonstration by DoD government activities.

E. Performance Metrics

Integration and Demonstration are schedule to continue until 2Q FY12. Performance Spec and Capability Development Document will be completed in 4Q FY12.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 3212: <i>MEDUSA JCTD</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	C/CPFF	Sikorsky:Stratford, CT	3.845	-		-		-		-	0.000	3.845	3.845
Prior Years Prod Dev	C/CPFF	Raytheon:Crane, IN	2.102	-		-		-		-	0.000	2.102	2.102
Systems Engineering	WR	NAWC-WD:China Lake, CA	7.878	-		-		-		-	0.000	7.878	
Product Development (DRL)	TBD	Lockheed Martin:Owego, NY	2.000	-		0.500	Jan 2013	-		0.500	0.000	2.500	2.500
Systems Engineering (DRL)	WR	NAWC-AD:Patuxent River, MD	0.781	-		0.255	Nov 2012	-		0.255	0.000	1.036	
Systems Engineering (DRL)	Various	NAWC-WD:China Lake, CA	4.436	-		-		-		-	0.000	4.436	
Systems Engineering (DRL)	Various	NSWC:Indian Head, MD	2.673	-		0.400	Dec 2012	-		0.400	0.000	3.073	
Subtotal			23.715	-		1.155		-		1.155	0.000	24.870	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 (DRL)	WR	NSWC:Indian Head, MD	-	-		0.400	Feb 2013	-		0.400	0.000	0.400	
Test & Evaluation (DRL)	WR	NAWC-WD:China Lake, CA	-	-		0.750	Jan 2013	-		0.750	0.000	0.750	
Test & Evaluation (DRL)	WR	NAWC-AD:Patuxent River, MD	-	-		0.400	Dec 2012	-		0.400	0.000	0.400	
Developmental Testing (MEDUSA)	C/CPFF	DMEA:McClellan, CA	0.077	-		-		-		-	0.000	0.077	0.077
Developmental Testing (MEDUSA)	C/CPFF	Lockheed:Owego, NY	4.077	-		-		-		-	0.000	4.077	4.077
Training & Test Set	SS/FFP	Wright Patterson AFB:Wright Patterson, OH	0.310	-		-		-		-	0.000	0.310	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 3212: <i>MEDUSA JCTD</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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			4.464	-		1.550		-		1.550	0.000	6.014	

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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			
Government Engineering Support	WR	NAWC-AD:Patuxent River, MD	-	-		0.350	Dec 2012	-		0.350	0.000	0.350	
Travel	WR	NAVAIR:Patuxent River, MD	0.021	-		0.045	Dec 2012	-		0.045	0.000	0.066	
Program Management Support	WR	NAWC-AD:Patuxent River, MD	0.479	-		-		-		-	0.000	0.479	
Program Management Support	C/CPFF	AMEWAS:California, MD	0.188	-		-		-		-	0.000	0.188	0.188
Subtotal			0.688	-		0.395		-		0.395	0.000	1.083	

Remarks
Contract Type for Travel is TO.

	Total Prior Years Cost	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	28.867	-	3.100	-	3.100	0.000	31.967	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 3212: <i>MEDUSA JCTD</i>

Digital Rocket Launcher (DRL) & MEDUSA JCTD	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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 & Demonstration																												
Capability Development Document																												
Performance Spec																												
DRL Design																												
Technical Readiness Review (DRL)																												
Interim Flight Clearance (DRL)																												
Test & Evaluations Milestones																												
Integration & Demonstration																												
Regression Test																												
Captive Carry Test																												
Quick Reaction Assessment (DRL)																												
A/C Software Development and Software Test (DRL)																												
Vibration Testing (DRL)																												
1st Ground Launch Test (DRL)																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 3212: <i>MEDUSA JCTD</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Digital Rocket Launcher (DRL) & MEDUSA JCTD				
System Development & Demonstration: Capability Development Document: Capability Development Document (MEDUSA-JCTD)	4	2012	4	2012
System Development & Demonstration: Performance Spec: Perf Spec (MEDUSA-JCTD)	4	2012	4	2012
System Development & Demonstration: DRL Design: DRL Design	1	2012	2	2012
System Development & Demonstration: Technical Readiness Review (DRL): Technical Readiness Review (DRL)	4	2012	4	2012
System Development & Demonstration: Interim Flight Clearance (DRL): interim flight clearance (DRL)	3	2012	3	2012
Test & Evaluations Milestones: Integration & Demonstration: Integration & Demonstration (MEDUSA-JCTD)	1	2011	2	2012
Test & Evaluations Milestones: Regression Test: Regression Test (MEDUSA JCTD)	1	2012	1	2012
Test & Evaluations Milestones: Captive Carry Test: Captive Carry Tests (MEDUSA JCTD)	2	2012	2	2012
Test & Evaluations Milestones: Quick Reaction Assessment (DRL): Quick Reaction Assessment (DRL)	4	2013	2	2014
Test & Evaluations Milestones: A/C Software Development and Software Test (DRL): A/C Software Development and Software Test (DRL)	3	2012	3	2012
Test & Evaluations Milestones: Vibration Testing (DRL): Vibration Testing (DRL)	3	2012	3	2012
Test & Evaluations Milestones: 1st Ground Launch Test (DRL): 1st Ground Launch Test (DRL)	2	2012	2	2012

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 3412: <i>Hellfire-R Integration</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
3412: <i>Hellfire-R Integration</i>	-	-	-	-	-	7.780	6.600	-	-	0.000	14.380
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

AGM-114-R is an Engineering Change Proposal to the fielded AGM-114-K,K2,K2A, P,P2, P2A and AGM-114-M missiles. It is intended to address safety, reliability and producibility issues while maintaining the current lethality of fielded versions of the Hellfire missile. The Department of the Navy (DoN) has participated in the development of the AGM-114R, which provides full Unmanned Air Vehicle (UAV), FW (Harvest Hawk) and RW Capabilities. The AGM-114R also increases lethality (Trajectory Shaping), increases Engagement Envelope (360 deg) and roll-tip off safety issues. The AGM-114R will maximize the Warfighter's' operational flexibility by allowing them to effectively engage a variety of stationary and mobile targets, including advanced armor, bunkers, buildings, command and control vehicles, transporter/erector launchers and patrol craft.

RDT&E funding will support a combination of ground software validation efforts, E3 environmental studies, and aircraft interface and launcher signal validations. In addition, Development Test/Operational Test (DT/OT) Flight tests using all-up rounds will be performed during backwards compatibility System Qualification Testing (SQT).

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

N/A

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

N/A

D. Acquisition Strategy

The US Army is currently in the developmental test phase of the AGM-114R and qualifying both the Integrated Blast Fragmentation Warhead as well as the Production Pilot Line. Missiles from this first Low Rate Initial Production will support Army/Air Force DT/OT Firings as well as Live Fire Test and Evaluation in FY13. FY14 Full Rate Production will support Army and Air Force fielding and will be used to provide missiles to support US Navy Platform Integration. A total of 20 AGM-114R missiles and 4 Romeo CATMS will be procured to support this integration.

E. Performance Metrics

Successful completion of Army Live Fire Test and Evaluation in FY 14.

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 3412: <i>Hellfire-R Integration</i>
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Hellfire-R Integration	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017							
	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																																
Test and Evaluatoin																																
Production Milestones																																
Deliveries																																
<div style="display: flex; justify-content: space-around; font-size: small;"> <div style="border: 1px solid black; padding: 2px;">Army IOC ▲</div> <div style="border: 1px solid black; padding: 2px;">System Qualification Testing</div> <div style="border: 1px solid black; padding: 2px;">AH1W/Z DT/OT</div> <div style="border: 1px solid black; padding: 2px;">KC-130J Harvest Hawk</div> <div style="border: 1px solid black; padding: 2px;">MH-60R/S DT/OT</div> <div style="border: 1px solid black; padding: 2px;">OT Live Fire Events 1 ▲</div> <div style="border: 1px solid black; padding: 2px;">OT Live Fire Events 2 ▲</div> <div style="border: 1px solid black; padding: 2px;">OT Live Fire Events 3 ▲</div> <div style="border: 1px solid black; padding: 2px;">OT Live Fire Events 4 ▲</div> <div style="border: 1px solid black; padding: 2px;">Army Phase I & II SQT12 Completion ▲</div> <div style="border: 1px solid black; padding: 2px;">HF Romeo Pilot Line</div> <div style="border: 1px solid black; padding: 2px;">House Mouse/CATM ▲</div> <div style="border: 1px solid black; padding: 2px;">AUR LRIP 1 ▲</div> </div>																																

2013PB - 0205601N - 3412

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205601N: <i>Harm Improvement</i>	PROJECT 3412: <i>Hellfire-R Integration</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Hellfire-R Integration</i>				
Acquisition Milestones: Army IOC	4	2013	4	2013
Test and Evaluatoin: System Qualification Testing	4	2013	4	2015
Test and Evaluatoin: AH1W/Z DT/OT	1	2014	4	2014
Test and Evaluatoin: KC-130J Harvest Hawk	3	2014	2	2015
Test and Evaluatoin: MH-60R/S DT/OT	1	2015	4	2015
Test and Evaluatoin: OT Live Fire Events 1	2	2014	2	2014
Test and Evaluatoin: OT Live Fire Events 2	4	2014	4	2014
Test and Evaluatoin: OT Live Fire Events 3	1	2015	1	2015
Test and Evaluatoin: OT Live Fire Events 4	4	2015	4	2015
Production Milestones: Army Phase I & II SQT12 Completion	1	2013	1	2013
Production Milestones: HF Romeo Pilot Line	1	2013	4	2013
Deliveries: AUR LRIP 1	1	2014	1	2014
Deliveries: House Mouse/CATM	4	2013	4	2013

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY			R-1 ITEM NOMENCLATURE								
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>			PE 0205604N: <i>Tactical Data Links</i>								
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	28.241	69.189	118.818	-	118.818	87.893	50.509	43.432	48.167	Continuing	Continuing
2126: <i>ATDLS Integration</i>	28.241	57.189	81.912	-	81.912	66.541	50.509	43.432	48.167	Continuing	Continuing
3341: <i>Network Tactical Common Data Link</i>	-	-	14.907	-	14.907	16.352	-	-	-	0.000	31.259
4022: <i>Other Tactical Data Link Engineering</i>	-	12.000	21.999	-	21.999	5.000	-	-	-	0.000	38.999

A. Mission Description and Budget Item Justification

This Program Element develops and improves the Navy's Tactical Data Link (TDL) systems. It includes the Advanced Tactical Data Link Systems (ATDLS) Integration Programs, specifically Link 16 Network, Command and Control Processor (C2P) and Link Monitoring and Management Tool (LMMT) (formerly Air Defense System Integrator (ADSI)). The Program Element develops network tactical common data link command and control Intelligence, Surveillance, and Reconnaissance (ISR) data exchange capability across dissimilar networks. The Program Element also develops and tests tactical data link capability to distribute other data types to new and existing platforms.

JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it encompasses engineering and manufacturing development for upgrade of existing operational systems.

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	28.854	69.224	87.653	-	87.653
Current President's Budget	28.241	69.189	118.818	-	118.818
Total Adjustments	-0.613	-0.035	31.165	-	31.165
• Congressional General Reductions	-	-0.035			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	0.539	-			
• SBIR/STTR Transfer	-0.983	-			
• Program Adjustments	-	-	31.237	-	31.237
• Rate/Misc Adjustments	-	-	-0.072	-	-0.072
• Congressional General Reductions Adjustments	-0.169	-	-	-	-

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>
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Change Summary Explanation

Schedule:

ATDLS Integration:

Link 16 Network Increment II Dynamic Network Management (DNM) (2126): The following milestones/events have slipped 3 quarters due to the delayed approval of critical acquisition documentation and TEMP staffing: DNM Milestone C/Full Development Decision Review (FDDR), Initial Operating Capability (IOC), Joint Tactical Information Distribution System (JTIDS) DNM Developmental Test (DT)/Operational Test (OT), JTIDS Developmental Test Readiness Review (DTRR), JTIDS Operational Test Readiness Review (OTRR), and Multifunctional Information Distribution System (MIDS) On Ship (MOS) DT (only 1 quarter).

Link 16 Network Increment II Cryptographic Modernization (CM)/Frequency Remapping (FR) (2126): JTIDS System Requirements Review (SRR) slipped (from FY 2011Q3 to FY 2011Q4) due to engineering requirements issues in the functional baseline. The following JTIDS/MOS CM/FR Integration (Ship) milestones/ events have been advanced to maintain alignment with C2P Program development changes: SRR (from FY 2014Q2 to FY 2013Q2), Preliminary Design Review (PDR) (from FY 2014Q4 to FY2013Q4) and Critical Design Review (CDR) (FY 2015Q2 to FY 2014Q2).

Command and Control Processor (C2P) (2126): C2P Technology Refresh milestones/events have slipped due to Department priorities: SRR (from FY 2012Q2 to FY 2013Q2), PDR (from FY 2012Q4 to FY 2013Q4), CDR (from FY 2013Q2 to FY 2014Q2), DTRR (from FY 2013Q4 to FY 2016Q2), OTRR (from FY 2014Q2 to FY 2016Q4), DT (from FY 2014Q1 to FY 2016Q3), OT (from FY 2014Q4 to FY 2016Q4), Production Readiness Review (PRR) (FY2017Q4). C2P Interoperability has been changed to a rapid software update effort and advanced in the schedule due to the Department's higher-priority objectives. C2P Interoperability In Progress Review (IPR), DT Combat System Certification, and Software Update added to the schedule. C2P Interoperability SRR, PDR, and CDR were removed from the schedule. C2P Link 22 development efforts were accelerated with the addition of funds. Link 22 SRR advanced (from FY 2016Q4 to FY 2014Q1), PDR (FY2014Q3), CDR, (FY2015Q1), and added Inc 3 Milestone C (2017Q4), Software Builds have been added to the schedule based on Department priorities, and to meet coalition forces communication requirements timelines.

Link Monitoring and Management Tool (LMMT) Increment I (formerly Air Defense System Integrator (ADSI)) (2126) is a FY 2013 new start and has been added to the schedule.

The Network Tactical Common Data Link (3341) is a FY 2013 new start and has been added to the schedule.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 2126: <i>ATDLS Integration</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2126: <i>ATDLS Integration</i>	28.241	57.189	81.912	-	81.912	66.541	50.509	43.432	48.167	Continuing	Continuing
Quantity of RDT&E Articles	0	0	5	0	5	0	0	0	0		

A. Mission Description and Budget Item Justification

A. Mission Description and Budget Item Justification

This project develops and improves the Navy's Tactical Data Link (TDL) systems. It includes the Advanced Tactical Data Link Systems (ATDLS) Integration Programs, specifically Link 16 Network, Command and Control Processor (C2P) and Link Monitoring and Management Tool (LMMT) (formerly Air Defense System Integrator (ADSI)).

ATDLS Integration Program develops new and improved capabilities for Navy tactical data link users. The Navy Link 16 Network Increment II consists of Dynamic Network Management (DNM), Cryptographic Modernization (CM) and Frequency Remapping (FR). C2P Technology Refresh (TR) and C2P Interoperability will modernize legacy C2P processing components to address C2P component obsolescence and fleet interoperability issues. C2P is a critical component in the Aegis Ballistic Missile Defense (BMD) architecture. Modernization is a service life extension program required to sustain C2P support of Naval Air and BMD capabilities. Link 22 development and integration into the C2P allows for standard data link communication with Coalition forces. LMMT Increment I (formerly ADSI) will upgrade commercial off-the-shelf hardware and modernize software operating systems. LMMT Increment II will improve data link performance monitoring and management in support of the Integrated Air & Missile Defense (IAMD) and BMD missions.

Link 16 Network Increment II funds the DNM capability and the implementation of Link 16 Network DNM on Navy ships, shore sites and airborne Link 16 terminals. DNM will provide automatic reconfiguration of Link 16 networks that respond instantly to emergent war fighter requirements. DNM consists of new terminal protocols that include Time Slot Reallocation and Combined Network Participation Groups. The DNM capabilities will be incorporated into Next Generation Command and Control Processor (NGC2P). Increment II also funds the following activities: (1) development and implementation of CM and FR mandates as a product improvement into Link 16 terminals and integration into shore sites, ship (NGC2P), and current Navy Joint Tactical Information Distribution System (JTIDS) airborne platforms; (2) development, integration, testing, and fielding of additional stacked networks and studies; (3) Developmental Tests / Operational Tests (DT/OT) of Navy platform modifications; and (4) implementation of new Link 16 information / data into the shipboard C2P to support Link 16 Network new and improved capabilities. (5) Provide product improvement for continued production capability of shipboard Link 16 Terminals.

FY 2013 Justification: Funding will provide for Link 16 Network DNM Multifunctional Information Distribution System (MIDS) On Ship (MOS) Follow-on Operational Test and Evaluation (FOT&E). Funding will provide for JTIDS CM/FR detailed design leading to Critical Design Review (CDR) and development of five Engineering and Manufacturing Development units to be used for National Security Agency (NSA) Cryptographic Certification and acceptance testing in FY 2014. Funding will also provide for MOS CM/FR requirements and design work to support a Systems Requirements Review (SRR), Preliminary Design Review (PDR) and CDR. JTIDS and MOS CM/FR efforts are in support of NSA (NSA Policy 3-9) and Joint Chiefs of Staff mandates (Chairman of the Joint Chiefs of Staff Instruction Notice 6510.02), for the modernization of the cryptographic algorithm used in Link 16 terminals and the Department of Defense and the Department of Transportation Memorandum of

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 2126: <i>ATDLS Integration</i>
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Agreement (Regarding the 960-1215 MHz. Frequency Band, 31 December 2002) for the implementation of a capability to remap any 14 of the existing 51 frequencies in order to remain operable within the United States and its possessions. All Link 16 terminals are required to have this capability to support Link 16 Interoperability.

Command and Control Processor (C2P) Technology Refresh (TR) funds a product improvement effort to the legacy C2P hardware components and allows C2P software to execute on modern processors, thereby extending its effective service life. Product improvement efforts will include C2P software development, hardware integration, update of the C2P development environment to promote sustainability and testing to include Developmental Test (DT)/Operational Test (OT) of the C2P TR baseline. C2P Interoperability funds changes to C2P needed to improve shipboard tactical data link interoperability and reliability.

C2P, Phase 3, Increment 3 is planned to include Link 22, which is an Electronic Counter Measure (ECM) resistant, Beyond Line of Sight (BLOS) tactical data communication system utilizing fixed frequency or frequency hopping techniques in the High Frequency (HF) (3-30 Megahertz (MHz)) and/or the Ultra High Frequency (UHF) (225-400 MHz) bands.

FY 2013 Justification: C2P Interoperability efforts have been accelerated ahead of C2P TR. In FY 2013, will support C2P Interoperability Combat System Certification. In FY 2013, C2P TR funding will provide for requirements and design of C2P TR baseline in support of Systems Requirements Review (SRR) and Preliminary Design Review (PDR), leading to a Critical Design Review (CDR), which will occur in FY 2014Q2. Link-22 efforts commence in FY 2013.

Link Monitoring and Management Tool (LMMT) (formerly Air Defense System Integrator (ADSI)) is a near real-time tactical command and control system delivered on commercial off-the-shelf hardware providing for multiple Tactical Data Link (TDL) interfaces, processing and display of Link 11A, Link 11B, Link 16, Joint Range Extension and North Atlantic Treaty Organization Link 1. LMMT is also capable of performing data forwarding between the TDLs and providing tactical data to the Global Command and Control System, Maritime for establishing the Common Operational Picture.

FY 2013 Justification: LMMT Increment I is a new start in FY 2013. Funding will provide for the development of requirements, interoperability, test, and logistics products to support Developmental Testing in FY 2013.

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

	FY 2011	FY 2012	FY 2013
Title: Link 16 Network Increment II (Formerly ATDLS Integration) - Dynamic Network Management (DNM)	5.362	3.651	1.500
Articles:	0	0	0
FY 2011 Accomplishments:			
Initiated Joint Tactical Information Distribution System (JTIDS) DNM DT preparation. Developed Link 16 Network integrated logistics support products.			
FY 2012 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 2126: <i>ATDLS Integration</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<p>Conduct JTIDS DNM DT / OT leading up to DNM Milestone C. Conduct Multifunctional Information Distribution System (MIDS) On Ship (MOS) DNM DT to support MOS DNM Follow-on Operational Test and Evaluation (FOT&E)/Operational Test Readiness Review (OTRR). Continue Link 16 Network integrated logistics support.</p> <p>FY 2013 Plans: Conduct MOS DNM FOT&E and achieve DNM Milestone C.</p>				
<p>Title: Link 16 Network Increment II (Formerly ATDLS Integration) - Cryptographic Modernization (CM) / Frequency Remapping (FR)</p> <p>Articles:</p> <p>FY 2011 Accomplishments: Initiated Joint Tactical Information Distribution System (JTIDS) airborne (E-2C) platform integrations studies and analysis. Conducted JTIDS System Requirements Review (SRR) for Cryptographic Modernization (CM) / Frequency Remapping (FR). Developed Link 16 Network integrated logistics support products. Conducted technical requirements study on classified future Link-16 capability.</p> <p>FY 2012 Plans: Continue Link 16 Network integrated logistics support. Continue JTIDS airborne integration study and initiate the shipboard integration study. Conduct JTIDS Preliminary Design Review (PDR). Conduct detailed design of the CM/FR product improvement. Begin development of system technical requirements for the integration of Multifunctional Information Distribution System (MIDS) On Ship (MOS) with CM/FR into ship.</p> <p>FY 2013 Plans: Conduct JTIDS CM/FR Critical Design Review (CDR) and initiate development of JTIDS CM/FR Engineering Manufacturing Development (EMD) units. Conduct MOS CM/FR System Requirements Review SRR/PDR. Initiate development of MOS Product Improvement for continued product ability. Initiate CM/FR shipboard integration.</p>		22.879 0	36.836 0	39.597 5
<p>Title: Command and Control Processor (C2P)</p> <p>Articles:</p> <p>FY 2012 Plans: C2P Interoperability initial software build and developmental testing will commence, supporting field testing during Trident Warrior in FY 2012. C2P Technology Refresh (TR) will commence development of Technology Refresh architecture requirements, integration with modernized data link cryptographic devices and software / hardware technology prototyping in support of FY 2013 design reviews.</p> <p>FY 2013 Plans:</p>		-	16.702 0	37.615 0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 2126: <i>ATDLS Integration</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Support C2P Interoperability combat system certification. C2P TR funding will provide for requirements, design, initial development, and integration of C2P Technology Refresh baseline product improvements in support of SRR and PDR, leading to a Critical Design Review (CDR), which will occur in FY 2014. Link-22 efforts commence development of Link-22 Data Link Processor (DLP) in FY 2013 in support of design milestones planned in FY 2014.			
Title: Link Monitoring and Management Tool (LMMT) (formerly Air Defense System Integrator (ADSI)) Articles:	-	-	1.000 0
FY 2013 Plans: LMMT Increment I (formerly ADSI) is a new start. Provide for the development of requirements, interoperability, test, and logistics products to support Developmental Test Readiness Review (DTRR) and Developmental Testing of commercial off-the-shelf hardware and upgraded software in FY 2013.			
Title: Joint Aerial Layer Network (JALN) Articles:	-	-	2.200 0
FY 2013 Plans: Joint Aerial Layer Network (JALN) is a prototype development of a communications relay capability intended to improve and ensure adequate tactical network communications in a jammed environment.			
Accomplishments/Planned Programs Subtotals	28.241	57.189	81.912

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

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPN/2614: <i>ATDLS</i>	2.260	0.942	0.000	0.000	0.000	9.624	26.084	40.494	37.084	Continuing	Continuing

D. Acquisition Strategy

The JTIDS Crypto Modernization (CM)/Frequency Remapping (FR) development and Low Rate Initial Production (LRIP) contract was awarded to Data Link Solutions (DLS). The associated production contract for JTIDS CM/FR will be competitively awarded after Operational Test. The MOS CM/FR contract option will be exercised in FY13. Will award a MOS product improvement contract for continued capability. Link 16 Terminal CM/FR shipboard integration will be accomplished through the C2P contract. Will competitively award a contract for C2P Tech Refresh and Link-22 development in FY 2013. C2P Interoperability efforts will utilize the software support activity at Space and Naval Warfare Systems Command (SPAWAR) Systems Center Pacific. The Link Monitoring and Management Tool (LMMT) (formerly Air Defense System Integrator (ADSI)) will utilize test and evaluation personnel at both program office and Commander Operational Test and Evaluation Force (COMOPTEVFOR) to prepare for Developmental Test (DT)/Operational Test (OT).

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 2126: <i>ATDLS Integration</i>

E. Performance Metrics

Link 16 Network DNM: Successfully achieve Milestone C. Successfully achieve Initial Operational Capability. Successfully conduct Full Deployment Decision Review. Successfully complete Operation Test Readiness Review. Successfully complete Developmental Test / Operational Test.

Link 16 Network Cryptographic Modernization: Successful implementation of updated cryptographic algorithm as specified by National Security Agency (NSA Policy 3-9) Certification in Joint Tactical Information Distribution System (JTIDS) and Multifunctional Information Distribution System (MIDS) on Ship (MOS) Link 16 terminals.

Link 16 Network Frequency Remapping: Successful implementation of a Frequency Remapping capability as specified in Department of Defense/Department of Transportation Memorandum of Agreement regarding the 960-1215 MHz Frequency Band of 31 Dec 02 in Joint Tactical Information Distribution System (JTIDS) and Multifunctional Information Distribution System (MIDS) on Ship (MOS) Link 16 Terminals.

Command and Control Processor (C2P): Successfully achieve C2P Technology Refresh Fielding and thereby maintain operational availability.

C2P Interoperability: Successfully support C2P Interoperability Combat System Certification.

Link 22: Successfully achieve Link 22 implementation fielding, meeting operational requirement.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 2126: <i>ATDLS Integration</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
ATDLS Product Development and Integration	Various	Various:Various	363.158	-		-		-		-	0.000	363.158	363.158
Link 16 Network Development	SS/FFP	DLS (BAE/Rockwell):Wayne, NJ	26.388	22.749	Oct 2011	19.950	Oct 2012	-		19.950	Continuing	Continuing	Continuing
Link 16 Network Development (MOS)	C/BA	Unknown:Unknown	-	2.000	Sep 2012	7.600	Oct 2012	-		7.600	0.000	9.600	
Link 16 Network Software	WR	SPAWARSYSCEN PAC:San Diego, CA	2.496	-		-		-		-	0.000	2.496	Continuing
Link 16 Network Integrated Logistics Support	C/CPFF	SeaPort-E:San Diego, CA	1.100	0.753	Oct 2011	0.643	Oct 2012	-		0.643	Continuing	Continuing	Continuing
Link 16 Network Configuration Management	WR	SPAWARSYSCEN PAC:San Diego, CA	0.451	0.448	Oct 2011	0.442	Oct 2012	-		0.442	Continuing	Continuing	Continuing
Link 16 Network Systems Engineering	WR	SPAWARSYSCEN PAC:San Diego, CA	35.991	5.098	Oct 2011	4.598	Oct 2012	-		4.598	Continuing	Continuing	Continuing
C2P Development	C/IDIQ	Unknown:Unknown	-	4.000	Mar 2012	16.792	Dec 2012	-		16.792	Continuing	Continuing	Continuing
C2P Development (Interoperability)	WR	SPAWARSYSCEN PAC:San Diego, CA	-	4.351	Oct 2011	4.125	Oct 2012	-		4.125	Continuing	Continuing	Continuing
C2P Systems Engineering	WR	SPAWARSYSCEN PAC:San Diego, CA	-	2.441	Dec 2011	5.940	Oct 2012	-		5.940	Continuing	Continuing	Continuing
LMMT Inc I Integrated Logistics Support	C/CPFF	SeaPort-E:San Diego, CA	-	-		0.250	Oct 2012	-		0.250	0.000	0.250	
Subtotal			429.584	41.840		60.340		-		60.340			

Remarks
Link 16 Network Development (MOS) - FY12 awarded to NGMS, San Diego, CA. FY13 performing activity is TBD.

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
ATDLS Test and Evaluation	Various	Various:Various	65.171	-		-		-		-	0.000	65.171	65.171

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 2126: <i>ATDLS Integration</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Link 16 Network Developmental T&E	WR	SPAWARSYSCEN PAC:San Diego, CA	3.038	4.017	Oct 2011	2.452	Oct 2012	-		2.452	Continuing	Continuing	Continuing
Link 16 Network Operational T&E	WR	SPAWARSYSCEN PAC:San Diego, CA	2.164	-		1.500	Oct 2012	-		1.500	Continuing	Continuing	Continuing
C2P T&E	WR	SPAWARSYSCEN PAC:San Diego, CA	-	4.240	Oct 2011	7.859	Oct 2012	-		7.859	Continuing	Continuing	Continuing
LMMT Inc I Developmental T&E	WR	SPAWARSYSCEN PAC:San Diego, CA	-	-		0.750	Oct 2012	-		0.750	Continuing	Continuing	Continuing
Subtotal			70.373	8.257		12.561		-		12.561			

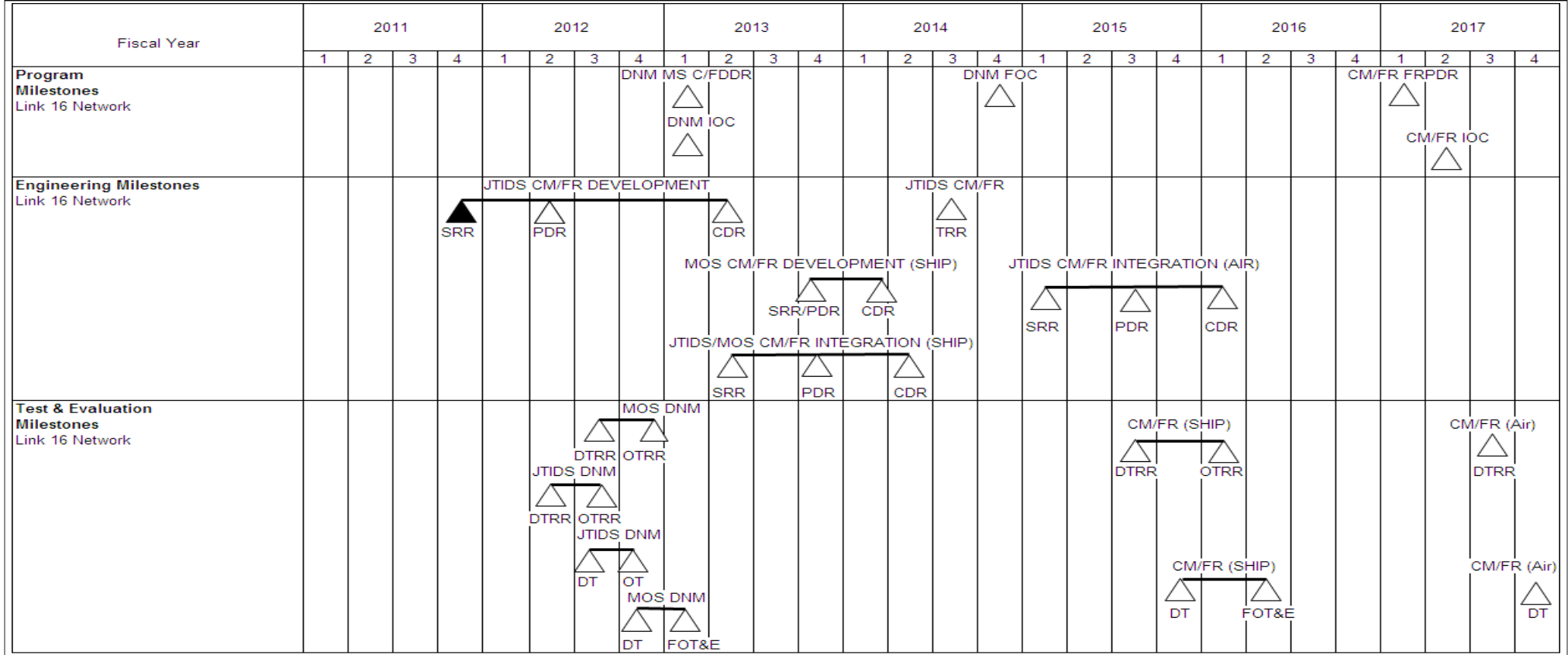
Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
ATDLS System Engineering Support	Various	Various:Various	20.177	-		-		-		-	0.000	20.177	20.177
Link 16 Network Contractor Engineering Support	C/CPFF	SeaPort-E:San Diego, CA	3.409	1.675	Oct 2011	1.950	Oct 2012	-		1.950	Continuing	Continuing	Continuing
Link 16 Network Government Engineering Support	WR	SPAWARSYSCEN PAC:San Diego, CA	1.613	1.990	Oct 2011	1.880	Oct 2012	-		1.880	Continuing	Continuing	Continuing
Link 16 Network Program Management Support	C/CPFF	SeaPort-E:San Diego, CA	0.700	1.757	Oct 2011	2.215	Oct 2012	-		2.215	Continuing	Continuing	Continuing
C2P Program Management Support	C/CPFF	SeaPort-E:San Diego, CA	-	1.670	Oct 2011	2.966	Oct 2012	-		2.966	Continuing	Continuing	Continuing
Acquisition Workforce Fund	Various	Unknown:Unknown	0.020	-		-		-		-	0.000	0.020	0.020
Subtotal			25.919	7.092		9.011		-		9.011			

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		525.876	57.189		81.912		-	81.912			

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 2126: <i>ATDLS Integration</i>
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<p>Legend:</p> <ul style="list-style-type: none"> DNM - Dynamic Network Management MS - Milestone FDDR - Full Development Decision Review FOC - Full Operating Capability IOC - Initial Operating Capability TRR - Test Readiness Review 	<ul style="list-style-type: none"> CDR - Critical Design Review JTIDS - Joint Tactical Information Distribution System CM - Cryptographic Modernization FR - Frequency Remapping SRR - System Requirements Review PDR - Preliminary Design Review FRPDR - Full Rate Production Decision Review 	<ul style="list-style-type: none"> MOS - Multifunctional Information Distribution System (MIDS) On Ship (MOS) DTRR - Developmental Test Readiness Review OTRR - Operational Test Readiness Review DT - Developmental Test OT - Operational Test FOT&E - Follow-on Operational Test & Evaluation
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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 2126: <i>ATDLS Integration</i>
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Fiscal Year	2011				2012				2013				2014				2015				2016				2017							
	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				
Program																																
Milestones C2P																																
Engineering Milestones C2P																																
Test & Evaluation Milestones C2P																																
Production Milestones C2P																																

Legend:

Processor	OTRR - Operational Test Readiness Review	IPR - In Progress Review	DTRR - Developmental Test Readiness Review
SRR - System Requirements Review	DT - Developmental Test	FOC - Full Operating Capability	OA - Operational Assessment
PDR - Preliminary Design Review	OT - Operational Test	MS C - Milestone C	TW - Trident Warrior
CDR - Critical Design Review	FDR - Fielding Decision Review	PRR - Production Readiness Review	

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 2126: <i>ATDLS Integration</i>
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Fiscal Year	2011				2012				2013				2014				2015				2016				2017							
	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				
Program Milestones LMMT																																
Engineering Milestones LMMT																																
Test & Evaluation Milestones LMMT																																

Legend:

FDR - Fielding Decision Review	OTRR - Operational Test Readiness Review
DT - Developmental Test	SRR - System Requirements Review
OT - Operational Test	PDR - Preliminary Design Review
DTRR - Developmental Test Readiness Review	CDR - Critical Design Review

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 2126: <i>ATDLS Integration</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2126				
Link 16 Network JTIDS CM/FR Development System Requirements Review	4	2011	4	2011
C2P Interoperability Initial Software Build	1	2012	1	2012
Link 16 Network JTIDS CM/FR Development Preliminary Design Review	2	2012	2	2012
Link 16 Network JTIDS DNM Developmental Test Readiness Review	2	2012	2	2012
NGC2P Increment II Full Operating Capability	2	2012	2	2012
C2P Interoperability Developmental Test	2	2012	2	2012
Link 16 Network MOS DNM Developmental Test Readiness Review	3	2012	3	2012
Link 16 Network JTIDS DNM Operational Test Readiness Review	3	2012	3	2012
Link 16 Network JTIDS DNM Developmental Test	3	2012	3	2012
C2P Interoperability In Progress Review	3	2012	3	2012
Link 16 Network MOS DNM Operational Test Readiness Review	4	2012	4	2012
Link 16 Network JTIDS DNM Operational Test	4	2012	4	2012
Link 16 Network MOS DNM Developmental Test	4	2012	4	2012
C2P Trident Warrior-12	4	2012	4	2012
Link 16 Network DNM Milestone C/Full Development Decision Review	1	2013	1	2013
Link 16 Network DNM Initial Operating Capability	1	2013	1	2013
Link 16 Network MOS DNM Follow On Operational Test & Evaluation	1	2013	1	2013
C2P Tech Refresh System Requirements Review	2	2013	2	2013
Link 16 Network JTIDS CM/FR Development Critical Design Review	2	2013	2	2013
Link 16 Network JTIDS/MOS CM/FR Integration (Ship) System Requirements Review	2	2013	2	2013
LMMT Inc I Developmental Test Readiness Review	3	2013	3	2013

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 2126: <i>ATDLS Integration</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
C2P Interoperability Software Delivery	3	2013	3	2013
Link 16 Network MOS CM/FR Development (Ship) System Requirements Review	4	2013	4	2013
Link 16 Network MOS CM/FR Development (Ship) Preliminary Design Review	4	2013	4	2013
Link 16 Network JTIDS/MOS CM/FR Integration (Ship) Preliminary Design Review	4	2013	4	2013
C2P Tech Refresh Preliminary Design Review	4	2013	4	2013
C2P Interoperability Combat System Certification	4	2013	4	2013
LMMT Inc I Developmental Test	4	2013	4	2013
Link 16 Network MOS CM/FR Development (Ship) Critical Design Review	1	2014	1	2014
C2P Link 22 System Requirements Review	1	2014	1	2014
Link 16 Network JTIDS/MOS CM/FR Integration (Ship) Critical Design Review	2	2014	2	2014
C2P Tech Refresh Critical Design Review	2	2014	2	2014
LMMT Inc I Operational Test Readiness Review	2	2014	2	2014
Link 16 Network JTIDS CM/FR Test Readiness Review	3	2014	3	2014
LMMT Inc I Operational Test	3	2014	3	2014
C2P Link 22 Preliminary Design Review	3	2014	3	2014
Link 16 Network DNM Full Operating Capability	4	2014	4	2014
LMMT Inc I Fielding Decision Review	4	2014	4	2014
Link 16 Network JTIDS CM/FR Integration (Air) System Requirements Review	1	2015	1	2015
C2P Link 22 Critical Design Review	1	2015	1	2015
Link 16 Network JTIDS CM/FR Integration (Air) Preliminary Design Review	3	2015	3	2015
Link 16 Network CM/FR (Ship) Developmental Test Readiness Review	3	2015	3	2015
C2P Link 22 In Progress Review I	3	2015	3	2015
Link 16 Network CM/FR (Ship) Developmental Test	4	2015	4	2015
Link 16 Network JTIDS CM/FR Integration (Air) Critical Design Review	1	2016	1	2016
Link 16 Network CM/FR (Ship) Operational Test Readiness Review	1	2016	1	2016

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 2126: <i>ATDLS Integration</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
C2P Tech Refresh Developmental Test Readiness Review	2	2016	2	2016
Link 16 Network CM/FR (Ship) Follow-on Operational Test and Evaluation	2	2016	2	2016
C2P Link 22 Software Build I	2	2016	2	2016
C2P Tech Refresh Developmental Test	3	2016	3	2016
LMMT Inc II System Requirements Review	3	2016	3	2016
C2P Tech Refresh Operational Test Readiness Review	4	2016	4	2016
C2P Tech Refresh Operational Test	4	2016	4	2016
C2P Link 22 Software Build II	4	2016	4	2016
Link 16 Network CM/FR Full Rate Production Decision Review	1	2017	1	2017
C2P Tech Refresh Fielding Decision Review	2	2017	2	2017
Link 16 Network CM/FR Initial Operating Capability	2	2017	2	2017
LMMT Inc II Preliminary Design Review	2	2017	2	2017
C2P Link 22 Software Build III	2	2017	2	2017
Link 16 Network CM/FR (Air) Developmental Test Readiness Review	3	2017	3	2017
LMMT Inc II Critical Design Review	3	2017	3	2017
C2P Link 22 In Progress Review II	3	2017	3	2017
Link 16 Network CM/FR (Air) Developmental Test	4	2017	4	2017
C2P Inc 3 Milestone C	4	2017	4	2017
C2P Tech Refresh Production Readiness Review	4	2017	4	2017

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 3341: <i>Network Tactical Common Data Link</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
3341: <i>Network Tactical Common Data Link</i>	-	-	14.907	-	14.907	16.352	-	-	-	0.000	31.259
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

FY13 New Start.

A. Mission Description and Budget Item Justification

Network Tactical Common Data Link (NTCDL) provides the ability to transmit/receive Intelligence, Surveillance, and Reconnaissance (ISR) data in real-time, and exchange command and control information (voice, data, and video) across dissimilar Joint, Service, Coalition, and civil networks. NTCDL provides warfighters with the capability to support multiple, simultaneous, networked operations with currently fielded CDL-equipped platforms (e.g. F/A-18, P-3, and MH-60R), in addition to next generation manned and unmanned platforms (e.g., P-8, Broad Area Maritime Surveillance (BAMS), and Fire Scout). NTCDL is a tiered capability (air, surface, sub-surface, portable) providing a modular, scalable, multiple-link networked communications. NTCDL benefits the fleet by providing horizon extension for line-of-sight sensor systems for use in time critical strike missions.

FY13 funding provides the initial program funding. Funds will be utilized to establish a procurement contract to design an NTCDL system appropriate to support Aircraft Carrier (CVN) CDL operations. The threshold requirement is for five (5) simultaneous off-ship CDL missions, with limited topside footprint as a design priority.

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

	FY 2011	FY 2012	FY 2013
Title: Network Tactical Common Data Link (NTCDL)	-	-	14.907
Articles:			0
FY 2013 Plans: FY13 funds will be used for: Acquisition documentation (Capability Development Document (CDD), System Performance Specification (SPS), Test and Evaluation Master Plan (TEMP), Integrated Master Schedule (IMS), etc). Also, contract to design/develop an NTCDL system appropriate to support Aircraft Carrier (CVN) CDL operations.			
Accomplishments/Planned Programs Subtotals	-	-	14.907

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

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• OPN/2950: <i>Tactical Network Common Data Link</i>	0.000	0.000	0.000	0.000	0.000	0.000	27.300	19.400	7.000	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 3341: <i>Network Tactical Common Data Link</i>

D. Acquisition Strategy

A full and open competition will be conducted to procure the NTCDL CVN system.

E. Performance Metrics

Joint Interoperability Test Command (JITC) certification of CDL waveforms

Number of simultaneous links: Threshold (T)= 5, Objective (O) = 12

Data rate - Minimum one 274 Megabit per second (Mbps) link (T), additional links must be 45Mbps or greater

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 3341: <i>Network Tactical Common Data Link</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
NTCDL Product Development	C/CPHF	unknown:unknown	-	-		12.004	Apr 2013	-		12.004	17.000	29.004	
Subtotal			-	-		12.004		-		12.004	17.000	29.004	

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	SPAWARSYSCTR:San Diego, CA	-	-		0.700	Oct 2012	-		0.700	0.700	1.400	
Subtotal			-	-		0.700		-		0.700	0.700	1.400	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
NTCDL Test and Evaluation	WR	SPAWARSYSCTR:San Diego, CA	-	-		1.000	Oct 2012	-		1.000	1.000	2.000	
Test and Review	MIPR	JITC:Fort Huachuca, AZ	-	-		0.200	Oct 2012	-		0.200	0.200	0.400	
Waveform certification	MIPR	COMOPTEVFOR:Norfolk, VA	-	-		0.200	Oct 2012	-		0.200	0.200	0.400	
Subtotal			-	-		1.400		-		1.400	1.400	2.800	

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	SPAWARSYSCTR:San Diego, CA	-	-		0.500	Oct 2012	-		0.500	0.500	1.000	
Program Management Support	SS/CPFF	SEAPORT-E:San Diego, CA	-	-		0.303	Oct 2012	-		0.303	0.497	0.800	

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 3341: <i>Network Tactical Common Data Link</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 3341				
NTCDL- Capabilities Development Document (CDD)	1	2013	1	2013
NTCDL- Milestone B	2	2013	2	2013
NTCDL- Request for Proposal (Contract)	2	2013	2	2013
NTCDL- Contract Award	3	2013	3	2013
NTCDL- Preliminary Design Review (PDR)	4	2013	4	2013
NTCDL- Acquisition Strategy (MS B)	1	2013	1	2013
NTCDL- Critical Design Review (CDR)	4	2013	4	2013
NTCDL-System Spec/Statement of Work	1	2013	1	2013
NTCDL- First Test Article	3	2014	3	2014
NTCDL- Shock Testing	3	2014	3	2014
NTCDL- Capability Production Document (CPD)	3	2014	3	2014
NTCDL- Test and Evaluation Master Plan (TEMP) (OA)	4	2014	4	2014
NTCDL- Development Test (DT) and Operational Assessment (OA)	4	2014	4	2014
NTCDL- Milestone C	1	2015	1	2015
NTCDL- Acquisition Strategy (MS C)	1	2015	1	2015
NTCDL- Low Rate Initial Production (LRIP) Contract Award	1	2015	1	2015
NTCDL- LRIP Deliveries	1	2016	1	2016
NTCDL- Initial Operating Capability (IOC)	1	2016	1	2016
NTCDL- Developmental Test/Operational Test Installs	3	2015	3	2015
NTCDL- Development Test (DT) and Operational Test (OT)	1	2016	1	2016
NTCDL- Test and Evaluation Master Plan (TEMP) (OT)	4	2015	4	2015

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 3341: <i>Network Tactical Common Data Link</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
NTCDL-Full Rate Production Directive (FPR-DR)	4	2016	4	2016
NTCDL- Acquisition Strategy (FRP)	3	2016	3	2016
NTCDL- Full Rate Production Contract Award	4	2016	4	2017
NTCDL- Full Rate Productions Deliveries/Installs	4	2017	4	2017

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 4022: <i>Other Tactical Data Link Engineering</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
4022: <i>Other Tactical Data Link Engineering</i>	-	12.000	21.999	-	21.999	5.000	-	-	-	0.000	38.999
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

See Classified Annex for details of this project.

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

	FY 2011	FY 2012	FY 2013
Title: Other Tactical Data Link Engineering	-	12.000	21.999
Articles:		0	0
FY 2012 Plans: See Classified Annex for details of this project.			
FY 2013 Plans: See Classified Annex for details of this project.			
Accomplishments/Planned Programs Subtotals	-	12.000	21.999

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

N/A

D. Acquisition Strategy

See Classified Annex for details of this project.

E. Performance Metrics

See Classified Annex for details of this project.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 4022: <i>Other Tactical Data Link Engineering</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
ACD Development and Integration	SS/CPFF	Raytheon:Sudbury, MA	-	10.342	Apr 2012	15.808	Nov 2012	-		15.808	3.400	29.550	35.525
ACD Development and Integration	WR	SPAWAR:San Diego, CA	-	0.747	Feb 2012	2.683	Nov 2012	-		2.683	0.140	3.570	
Subtotal			-	11.089		18.491		-		18.491	3.540	33.120	

Remarks
See Classified Annex for details of this project.

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 Support	C/CPFF	JHU/APL:Laurel, MD	-	0.100	Feb 2012	0.100	Dec 2012	-		0.100	0.025	0.225	
Systems Engineering Support	WR	SPAWAR:San Diego, CA	-	0.411	Feb 2012	0.474	Dec 2012	-		0.474	0.660	1.545	
Systems Engineering Support	MIPR	MIT/LL:Hanscom, MA	-	0.025	Feb 2012	0.025	Dec 2012	-		0.025	0.150	0.200	
Systems Engineering Support	C/CPAF	Systems, Planning and Analysis:Alexandria, VA	-	0.350	Feb 2012	0.600	Dec 2012	-		0.600	0.300	1.250	
Subtotal			-	0.886		1.199		-		1.199	1.135	3.220	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
ACD Test	SS/CPFF	Raytheon:Subury, MA	-	-		2.000	Nov 2012	-		2.000	0.000	2.000	0.250
ACD Test	WR	SPAWAR:San Diego, CA	-	-		0.284	Dec 2012	-		0.284	0.300	0.584	
Subtotal			-	-		2.284		-		2.284	0.300	2.584	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 4022: <i>Other Tactical Data Link Engineering</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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			

Remarks
See Classified Annex for details of this project.

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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			
Program Management Support	C/CPAF	Systems, Planning and Analysis: Alexandria, VA	-	0.025	Feb 2012	0.025	Dec 2012	-		0.025	0.025	0.075	3.225	
Subtotal			-	0.025		0.025		-		0.025	0.025	0.075	3.225	

Remarks
See Classified Annex for details of this project.

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract	
		Cost	Award Date	Cost	Award Date	Cost	Award Date					
Project Cost Totals		-		12.000		21.999		-		21.999	5.000	38.999

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 4022: <i>Other Tactical Data Link Engineering</i>

	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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 4022	
See Classified Annex for Details.	[REDACTED]

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205604N: <i>Tactical Data Links</i>	PROJECT 4022: <i>Other Tactical Data Link Engineering</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 4022				
See Classified Annex for Details.	1	2012	1	2016

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205620N: <i>Surface ASW Cmbt Sys Integr</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	29.983	29.472	27.342	-	27.342	35.064	27.573	27.516	28.034	Continuing	Continuing
1916: <i>Surface ASW System Improvement</i>	29.983	21.972	27.342	-	27.342	35.064	27.573	27.516	28.034	Continuing	Continuing
9999: <i>Congressional Adds</i>	-	7.500	-	-	-	-	-	-	-	0.000	7.500

A. Mission Description and Budget Item Justification

The 'Vision for Anti-Submarine Warfare (ASW) Superiority' provides a foundation on which to base the operational principles and force attributes needed to prevail against future adversary submarines. Fully aligned with 'A Cooperative Strategy for 21st Century Seapower', it is intended to establish a consistent sense of urgency, and guide the development of a comprehensive long-term strategy and attendant execution plans to achieve and sustain a strategic and operational advantage, and maximize the potential for tactical advantage in future operationally-relevant environments. Our nation and maritime forces face an evolving submarine threat of increasing lethality. Evolving submarine technologies offer enhanced stealth, speed, endurance, weapons and operational proficiency, trends foretelling that the adversary submarine of the future will have a significantly larger sphere of influence, while presenting less vulnerability to ASW forces. Furthermore, the effective offensive engagement range of the adversary submarine of the future will continue to match or outrange individual U.S. and multinational platform sensors and weapons in many tactical environments. ASW forces must be effective in all operating environments, ranging from the deep open ocean to the shallow coastal waters and littorals. The noisy undersea environment, coupled with stealthier submarines, challenges the ability of our sensors to detect, localize, and track threat submarines.

The objective of this Program Element (PE) is to significantly improve existing Surface Ship Undersea Warfare (USW) sonar system capabilities through quick and affordable development/integration of emergent, transformational technologies in support of Littoral ASW, Theater ASW, Mine Reconnaissance, and overall Sea Shield efforts required to pace the threat. Detection and classification play uniquely vital roles in the success of any ASW campaign. To be effective against increasingly stealthy threats in an often ambiguous undersea environment, future sensors must be environmentally adaptive, have very low false alarm rates, and exploit the full range of current and future submarine detection vulnerabilities.

Project 1916's primary mission is to improve AN/SQQ-89(V) Measures Of Performance (MOP) by enhancing detection, tracking, classification, passive, active, torpedo Detection, Classification, and Localization (DCL) and sonobuoy data processing and display capabilities, and increasing acoustic sensor frequency bandwidth (Operational Requirements Document #667-76-05 titled 'AN/SQQ-89 Improvement Program', Test and Evaluation Master Plan 801 and 802-2 (TEMP 801 & TEMP 802-2)). Improvements to system simulation, stimulation, Information Assurance (IA), software and network architectures, and safety are included. This project takes advantage of the AN/SQQ-89(V) Open System Architecture (OSA) and Acoustic Rapid Commercial-Off-The-Shelf (COTS) Insertion (ARCI) initiatives to integrate a torpedo DCL and ASW sonar combat system capability improvements. This COTS-based Surface Ship ASW combat system, the AN/SQQ-89A(V)15, is currently planned as a backfit program for both CG47 (CG59-73 Baseline 3 and 4) and DDG51 (All FLT I/III/IIA) class ships. The Open Architecture (OA) (level 3 compliant) of the AN/SQQ-89A(V)15 system drives the Advanced Capability Build (ACB) spiral development process and provides budget flexibility to make COTS/OA technology solutions and ARCI-type initiatives affordable. This will be accomplished via the incorporation of select Pre-Planned Product Improvements (P3I) and emergent, transformational ASW technologies delivered to the AN/SQQ-89(V) prime integrator every two years. ASW technology implementation will take advantage

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205620N: <i>Surface ASW Cmbt Sys Integr</i>
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of improvements developed under the submarine Advanced Processing Build (APB) program and will in turn share unique improvements developed under this program with the submarine and surveillance ASW communities. This project will also contribute to development of Littoral Combat Ship (LCS) ASW Mission Packages.

Project 1916 also includes funding for the Surface Ship Enhanced Measurement Program (SSEMP), which will measure the performance of existing and new Surface Ship ASW combat systems and enables data-based assessment of the capabilities and shortfalls in the performance of these systems in realistic scenarios.

Project 1916 also includes funding for the Surface ASW Synthetic Training (SAST) program (under the Surface Ship ASW Synthetic Signatures Generation and Training Acceleration Initiative), including the development of a high fidelity acoustic simulation of a surface ship sonar. This effort will accelerate the implementation and integration of the Submarine Multi-Mission Team Trainer (SMMTT) Navy Continuous Training Environment (NCTE) solution/baseline to the surface ship paradigm. The training, skills, and proficiency of all personnel supporting ASW operations must be approached in a coordinated, concentrated, and properly-resourced manner to overcome past deficiencies. The full spectrum of training must be addressed, from synthetic to the experience gained from actual and exercise operations. Technology must be exploited fully to provide assistance to operators, tacticians, and commanders, in order to improve and maintain their capability against the evolving threat. Delivery of SAST capability will be provided via the ACB spiral development process.

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	32.877	22.010	27.478	-	27.478
Current President's Budget	29.983	29.472	27.342	-	27.342
Total Adjustments	-2.894	7.462	-0.136	-	-0.136
• Congressional General Reductions	-	-0.038			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	7.500			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-2.000	-			
• SBIR/STTR Transfer	-0.727	-			
• Program Adjustments	-	-	-0.056	-	-0.056
• Rate/Misc Adjustments	-	-	-0.080	-	-0.080
• Congressional General Reductions Adjustments	-0.167	-	-	-	-

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

Project: 9999: *Congressional Adds*

Congressional Add: *Surf ASW SBIR (Cong)*

Congressional Add Subtotals for Project: 9999

	FY 2011	FY 2012
	-	7.500
Congressional Add Subtotals for Project: 9999	-	7.500

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205620N: <i>Surface ASW Cmbt Sys Integr</i>
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Congressional Add Details (\$ in Millions, and Includes General Reductions)

	FY 2011	FY 2012
Congressional Add Totals for all Projects	-	7.500

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy								DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0205620N: <i>Surface ASW Cmbt Sys Integr</i>				PROJECT 1916: <i>Surface ASW System Improvement</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
1916: <i>Surface ASW System Improvement</i>	29.983	21.972	27.342	-	27.342	35.064	27.573	27.516	28.034	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Surface ASW Systems Improvements Project will support essential performance enhancements to AN/SQQ-89(V) and Surface Ship Sonar Systems. This project will improve AN/SQQ-89(V) MOP by enhancing detection, tracking, classification, active, passive, torpedo DCL, and sonobuoy data processing and display capabilities, and increasing acoustic sensor frequency bandwidth (Operational Requirements Document #667-76-05 titled 'AN/SQQ-89 Improvement Program'), Test and Evaluation Master Plan 801 and 802-2 (TEMP 801 & TEMP 802-2).

This project will take advantage of the AN/SQQ-89(V) OSA and ARCI initiatives to integrate a TDCL and ASW sonar and combat system capability improvements. This COTS-based Surface Ship ASW combat system, the AN/SQQ-89A(V)15, is currently planned as a backfit program for both CG47 (CG59-73 Baseline 3 and 4) and DDG51 (All FLT I/II/IIA) class ships. This project has delivered the AN/SQQ-89A(V)15 Pre-Production Prototype, performed installation on board CG73, and conducted subsequent Developmental Test & Evaluation (DT&E) and Initial Operational Test & Evaluation (IOT&E) where the system was found 'Operationally Effective' by Command Operational Test and Evaluation Force (COMOPTEVFOR).

The OSA and high performance COTS processing hardware on ships fielded with the AN/SQQ-89A(V)15 combat system provides an opportunity to integrate select P3I as well as emergent, transformational ASW technological improvements that were previously unachievable. The Undersea Warfare (USW) suites on these ships will require periodic upgrades to remain effective well into the 21st century and to pace the threat. Software upgrades target capability increases in high interest areas as prescribed by the Fleet and captured in campaign analysis. To achieve this, this project will package and deliver incremental upgrades every two years to the AN/SQQ-89A(V)15 production program via an ACB spiral development process (ACB-11, ACB-13, etc.) by inserting maturing USW technologies, such as enhancements to improve USW performance in the littoral, reduced manning on AN/SQQ-89(V) equipped ships operator efficiency upgrades via the implementation of robust embedded data record and replay capability and active/passive sonar simulation/stimulation, DCL active/passive processing upgrades passive sonar automated detection and classification processing bell-ringers from the ASW Community-of-Interest, detect and track through maneuvers, integration of MH-60R mission systems with the AN/SQQ-89A(V)15 combat system, integration of Mid-Frequency active detection improvements, false-alarm rate reduction, clutter reduction, and integration of ASW Community-of-Interest improved acoustic intercept and small-object avoidance, ASW Multi-Sensor integration (acoustic similar-source fusion and implementation of integrated shipboard system data, and ASW combat display architecture and reduced watch-team operational concept implementation), distributed engagement management (Network Centric Enterprise Services implementation, new displays and decision aids, ASW Community-of-Interest model capabilities implementation), marine mammal detection and mitigation, Multi-Static Active ASW, Multi-Frequency Acoustic Communications (MF ACOMMS) between Surface Combatants and Submarines, new RAPTOR radar processing, and upgraded technologies such as algorithm improvements, increased Passive Narrow Band (PNB) frequency, improved Extended Echo Ranging (EER), Continuous Active Sonar (CAS), and beamformer improvements. A rigorous testing program is also required to ensure that these performance enhancements are operationally effective and suitable.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205620N: <i>Surface ASW Cmbt Sys Integr</i>	PROJECT 1916: <i>Surface ASW System Improvement</i>
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Project 1916 also includes funding for the Surface Ship Enhanced Measurement Program (SSEMP), which will measure the performance of existing and new Surface Ship ASW combat systems and enables data based assessment of the capabilities and shortfalls in the performance of these systems in realistic scenarios.

Project 1916 also includes funding, for the Surface ASW Synthetic Training (SAST) program (under the Surface Ship ASW Synthetic Signatures Generation and Training Acceleration Initiative), including the development of a high fidelity acoustic simulation of a surface ship sonar based on the Improved Performance Sonar (IPS) baseline. This effort will accelerate the implementation and integration of the Submarine Multi-Mission Team Trainer (SMMTT) Navy Continuous Training Environment (NCTE) solution/baseline to the surface ship paradigm for high fidelity active and passive simulation for the improvement of operator proficiency, development of a rapid acoustic reconstruction capability, and to ensure SAST interoperability via the AEGIS Combat Training System (ACTS) and Battle Force Tactical Trainer (BFTT). SAST capability will be fielded throughout the force, via ACB updates to the AN/SQQ-89A(V)15 system, while spiraling in additional ASW sensors, as well as full High Level Architecture (HLA)/NCTE interoperability.

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

	FY 2011	FY 2012	FY 2013
<p>Title: SQQ-89A(V)15 Surface Ship ASW Advanced Capability Build (ACB) Development</p> <p>Description: Develop enhancements to the AN/SQQ-89A(V)15 Open System Architecture (OSA) via the integration of transformational technologies through an ACB spiral development process. Items include hull-mounted Acoustic Intercept (ACI) sensor, ACI performance predictions and signal injection capabilities, Marine Mammal Detection and Mitigation (MMDM) capability, hull array adaptive beamformer and towed array shape compensated beamformer improvements via the Beamformer Functional Segment (BFFS), Mid-Frequency Active (MFA) Cooperative Organic Mine Defense (COMID) mine avoidance upgrades, MFA rapid replay and multi-waveform tracker, Hull Passive Processing Functional Segment (HPPFS) improvements, Sensor Performance Prediction Functional Segment (SPPFS) improvements, Low Frequency Multi-Static Functional Segment (LFMFS) improvements, Undersea Warfare Control Functional Segment (UCFS) improvements, Supportability Functional Segment (SupFS) improvements, Recording Functional Segment (RecFS) improvements, Common System Services/Mission Package Services (CSS/MPS) improvements, full bandwidth towed array passive ASW and automated torpedo DCL algorithm improvements (active/passive) within the Torpedo Recognition and Alertment Functional Segment (TRAFS) necessary to extend detection ranges and reduce false alert/alarm rates, new Data Fusion Functional Segment (DFFS) sensor to reduce the number of displays required for system operation, Multi-Frequency Acoustic Communications (MF ACOMMS) development, integration of MH-60R mission systems with the AN/SQQ-89A(V)15 combat system, Extended Echo Ranging (EER) "Distant Thunder" integration into the AN/SQQ-89A(V)15 Surface Common Airborne Undersea Sensor System (CAUSS) Functional Segment airframe sensor processing suite, explosive source integration with AN/SQQ-89A(V)15 processes, simplification of displays and active processing, incorporation of all Improved Performance Sonar (IPS) and Scaled Improved Performance Sonar (SIPS) features, and a Sonar Logger capability to significantly reduce operator data logging requirements. These items will be integrated and delivered to the CG47 and DDG51 class AN/SQQ-89A(V)15 backfit production programs via ACB updates. Import advanced development capabilities from the submarine Advanced Processing Build (APB) and Acoustic Rapid Commercial-off-the-Shelf (COTS) Insertion (ARCI) projects. Export advanced capabilities to submarine and surveillance combat system programs.</p>	<p>26.139</p> <p>Articles: 0</p>	<p>18.472</p> <p>0</p>	<p>23.392</p> <p>0</p>

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205620N: <i>Surface ASW Cmbt Sys Integr</i>	PROJECT 1916: <i>Surface ASW System Improvement</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<p>Resolve/troubleshoot issues/deficiencies that arise from the AN/SQQ-89(V) Surface Ship ASW Test & Evaluation program. Rapidly address and correct problems/deficiencies in processing, capability or operations within the following areas within the AN/SQQ-89(V) USW combat system architecture; sensor processing, acoustics, MMDM, fire control, contact management, performance prediction, operator productivity and on-board training, MFTA, Digital Fire Control Interface (DFCI), Remote Mine-Hunting System (RMS), MFA processing, and adaptive beamforming.</p> <p>FY 2011 Accomplishments: Continued the development of enhancements to the AN/SQQ-89A(V)15 OSA via the integration of transformational technologies through an ACB spiral development process. Imported advanced development capabilities from the submarine Advanced Processing Build (APB) and Acoustic Rapid Commercial-off-the-Shelf (COTS) Insertion (ARCI) projects. Supported the certification of ACB-11. Initiated the development of ACB-13.</p> <p>Finalized development/integration and complete qualification testing of a high fidelity acoustic simulation of a surface ship sonar based on the IPS baseline under the Surface Ship ASW Synthetic Signatures Generation and Training Acceleration Initiative.</p> <p>FY 2012 Plans: Continue development of enhancements to the AN/SQQ-89A(V)15 for ACB-13. Conduct independent testing and initiate productionization of the ACB-13 software.</p> <p>FY 2013 Plans: Continue development of enhancements to the AN/SQQ-89A(V)15 for ACB-13. Deliver the ACB-13 software build to the AEGIS certification process. Initiate development of concepts and capabilities for ACB-15.</p>				
<p>Title: AN/SQQ-89(V) Surface Ship ASW Test & Evaluation Program</p> <p align="right">Articles:</p> <p>FY 2011 Accomplishments: In support of ACB-11, completed Ship Qualification Test (SQT) 3Q11 and Aegis Integration Event (AIE) 4Q11.</p> <p>In support of ACB-13, provided AN/SQQ-89A(V)15 Surface Ship ASW test and evaluation planning support; SAT analysis, determined test ship and location, target/personnel/material requirements, and developed a test plan based on system configuration, at-sea data requirements, and ship, target, and range availabilities.</p> <p>FY 2012 Plans:</p>		0.714 0	0.300 0	0.750 0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205620N: <i>Surface ASW Cmbt Sys Integr</i>	PROJECT 1916: <i>Surface ASW System Improvement</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Continue ACB-13 AN/SQQ-89A(V)15 Surface Ship ASW test and evaluation planning support; SAT analysis, determine test ship, test location, target requirements, personnel requirements and materials required, develop a test plan based on system configuration, at-sea data requirements, and ship, target, and range availabilities. FY 2013 Plans: In support of ACB-13, complete AN/SQQ-89A(V)15 SQT 3Q13 and AIE 4Q13.			
Title: Surface Ship Enhanced Measurement Program (SSEMP) Description: Analyze the sonar employment in the operational setting and reported results for improvement of training/employment guidance. Perform Fleet exercise data reconstruction and post-test analysis each year. Conduct selected at-sea data collection activities by providing planning support, ship riders, and analyst support. Evaluate prototype sonar employment tactics, sonar processing and automation algorithms, and communication protocols for the detection, classification, tracking, and intra-Fleet hand-off to Fleet ASW assets, and provided summary reports to document results. FY 2011 Accomplishments: Continued at-sea ACB-09 operator testing, support for training and ACB development recommendations based on operational systems analyses, and conduct of acoustic and environmental case analyses of real world data. FY 2012 Plans: Commence ACB-11 Baseline Assessment and operator testing and analysis of SSEMP cases. FY 2013 Plans: Continue ACB-11 Baseline Assessment and operator testing and analysis of SSEMP cases.	3.130 0	3.200 0	3.200 0
Articles:			
Accomplishments/Planned Programs Subtotals	29.983	21.972	27.342

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPN/2136: <i>AN/SQQ-89 Surface ASW Combat System</i>	89.157	71.771	89.201	0.000	89.201	109.260	81.746	120.892	102.277	Continuing	Continuing
• OPN/0900: <i>DDG Modernization</i>	288.118	117.522	477.772	0.000	477.772	288.134	516.908	469.812	529.385	Continuing	Continuing
• OPN/0960: <i>CG Modernization</i>	348.934	573.349	101.000	0.000	101.000	22.000	79.000	0.000	0.000	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205620N: <i>Surface ASW Cmbt Sys Integr</i>	PROJECT 1916: <i>Surface ASW System Improvement</i>

D. Acquisition Strategy

- Completed AN/SQQ-89A(V)15 Surface Ship ASW Combat System Pre-Production Prototype, performed installation, conducted DT&E, and Initial IOT&E. Via an ACB spiral development process, incorporate evolutionary and transformational technologies into AN/SQQ-89A(V)15 production systems (planned for Baseline 3 and 4 CG47 Class and FLT I/II/IIA DDG51 Class hulls) at scheduled intervals to pace the threat.
- Awarded new, competitive contract for AN/SQQ-89(V) prime system integrator in FY 2007.

E. Performance Metrics

- Deliver incremental capability increases in high interest areas, as prescribed by the Fleet and captured in campaign analysis, every two years to the AN/SQQ-89A(V)15 production program via an ACB spiral development process (ACB-09, ACB-11, ACB-13, etc.) by inserting maturing USW technologies.
- Continue ACB-11 development reflecting active capability for Continuous Active Sonar (CAS) including clutter reduction, passive processing from submarine APB-09, SAST, and improvements in contact and data management. Plan for and execute ACB-11 Sea Test in FY12.
- Continue SAST system development, integration and testing.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205620N: <i>Surface ASW Cmbt Sys Integr</i>	PROJECT 1916: <i>Surface ASW System Improvement</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
SQQ-89 S/W Development/Integration	C/CPFF	AAC:NY	4.508	1.300	Jan 2012	1.850	Dec 2012	-		1.850	Continuing	Continuing	Continuing
SQQ-89 S/W Development/Integration	C/CPFF	AM:VA	11.622	1.750	Dec 2011	2.250	Dec 2012	-		2.250	Continuing	Continuing	Continuing
SQQ-89 S/W Development/Integration	C/CPFF	GD-AIS:VA	11.322	-		-		-		-	0.000	11.322	
SQQ-89 S/W Development/Integration	C/CPFF	In-Depth Engineering:VA	2.100	0.875	Jan 2012	0.950	Dec 2012	-		0.950	Continuing	Continuing	Continuing
SQQ-89 S/W Development/Integration	C/CPFF	JHU/APL:MD	8.675	3.961	Feb 2012	5.435	Dec 2012	-		5.435	Continuing	Continuing	Continuing
SQQ-89 S/W Development/Integration	C/CPFF	Lockheed Martin:NY	8.705	1.500	Feb 2012	2.450	Dec 2012	-		2.450	Continuing	Continuing	Continuing
SQQ-89 S/W Development/Integration	C/CPFF	Lockheed Martin:VA	1.800	1.800	Feb 2012	1.875	Dec 2012	-		1.875	Continuing	Continuing	Continuing
SQQ-89 S/W Development/Integration	WR	NSWC/Carderock:MD	1.720	-		-		-		-	0.000	1.720	
SQQ-89 S/W Development/Integration	WR	NSWC/Dahlgren:VA	1.336	0.104	Jan 2012	0.175	Nov 2012	-		0.175	Continuing	Continuing	Continuing
SQQ-89 S/W TDA Support	WR	NUWC/Newport:RI	5.473	1.287	Nov 2011	2.583	Nov 2012	-		2.583	Continuing	Continuing	Continuing
SQQ-89 S/W Development/Integration	C/CPFF	SEDNA:VA	1.400	1.400	Dec 2011	1.400	Dec 2012	-		1.400	Continuing	Continuing	Continuing
SQQ-89 S/W Development/Integration	C/CPFF	UT/ARL:TX	6.767	0.500	Dec 2011	0.950	Dec 2012	-		0.950	Continuing	Continuing	Continuing
SQQ-89 S/W Development/Integration	C/CPFF	VAR:VAR*	4.890	3.188	Dec 2011	3.893	Dec 2012	-		3.893	Continuing	Continuing	Continuing
SAST Development/Integration	C/CPFF	JHU/APL:MD	8.302	-		-		-		-	0.000	8.302	
SAST Development/Integration	WR	NSWC/Carderock:MD	11.265	-		-		-		-	0.000	11.265	
SAST Development/Integration	WR	NUWC/Newport:RI	2.950	-		-		-		-	0.000	2.950	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205620N: <i>Surface ASW Cmbt Sys Integr</i>	PROJECT 1916: <i>Surface ASW System Improvement</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
SAST Development/Integration	C/CPFF	SEDNA:VA	4.792	-		-		-		-	0.000	4.792	
SAST Development/Integration	C/CPFF	UT/ARL:TX	1.652	-		-		-		-	0.000	1.652	
SAST Development/Integration	C/CPFF	VAR:VAR*	0.380	-		-		-		-	0.000	0.380	
Subtotal			99.659	17.665		23.811		-		23.811			

Remarks
*Consists of multiple performing activities with funding for each not greater than \$1M per year.

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
SSEMP ConductTest/Data Evaluation	C/CPFF	JHU/APL:MD	5.760	2.050	Feb 2012	2.100	Dec 2012	-		2.100	Continuing	Continuing	Continuing
SSEMP Conduct/Test/Data Evaluation	WR	NUWC/Newport:RI	1.362	0.550	Nov 2011	0.500	Nov 2012	-		0.500	Continuing	Continuing	Continuing
SSEMP Conduct/Test/Data Evaluation	C/CPFF	UT/ARL:TX	1.878	0.600	Dec 2011	0.600	Dec 2012	-		0.600	Continuing	Continuing	Continuing
SQQ-89 IV&V/SAT/TEMP Assess./Update	WR	NUWC/Newport:RI	1.276	0.350	Nov 2011	-		-		-	0.000	1.626	
SQQ-89 DT/OT/Miscellaneous T&E	WR	VAR:VAR*	1.475	0.310	Dec 2011	-		-		-	0.000	1.785	
Subtotal			11.751	3.860		3.200		-		3.200			

Remarks
*Consists of multiple performing activities with funding for each not greater than \$1M per year.

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205620N: <i>Surface ASW Cmbt Sys Integr</i>	PROJECT 1916: <i>Surface ASW System Improvement</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 1916				
SQQ-89A(V)15 ACB-11 System Qualification Test (SQT)	3	2011	3	2011
SQQ-89A(V)15 ACB-11 Aegis Integration Event (AIE)	4	2011	4	2011
SQQ-89A(V)15 ACB-13 Dev./Step Eval./PRT/Integ./Cert.	1	2011	2	2013
SQQ-89A(V)15 ACB-13 SQT	3	2013	3	2013
SQQ-89A(V)15 ACB-13 AIE	4	2013	4	2013
SQQ-89A(V)15 ACB-15 Dev./Step Eval./PRT/Integ./Cert.	2	2013	2	2015
SQQ-89A(V)15 ACB-15 SQT	3	2015	3	2015
SQQ-89A(V)15 ACB-15 AIE	4	2015	4	2015
SQQ-89A(V)15 ACB-17 Dev./Step Eval./PRT/Integ./Cert.	2	2015	2	2017
SQQ-89A(V)15 ACB-17 SQT	3	2017	3	2017
SQQ-89A(V)15 ACB-17 AIE	4	2017	4	2017
Surface Ship Enhanced Measurement Program (SSEMP)	1	2011	4	2017
SQQ-89A(V)15 ACB-11 Prdtn. S/W Delivery to Integrator	4	2011	4	2011
SQQ-89A(V)15 ACB-13 Prdtn. S/W Delivery to Integrator	4	2013	4	2013
SQQ-89A(V)15 ACB-15 Prdtn. S/W Delivery to Integrator	4	2015	4	2015
SQQ-89A(V)15 ACB-17 Prdtn. S/W Delivery to Integrator	4	2017	4	2017
SQQ-89A(V)15 DDG51 Class FLT IIA Backfit Install (Adjunct Upgrade)	1	2011	4	2017
SQQ-89A(V)15 DDG51 Class FLT I/II Backfit Install (Adjunct Upgrade)	1	2012	1	2012
SQQ-89A(V)15 DDG51 Class FLT I/II Backfit Install (via DDG MOD Program)	4	2012	4	2017
SQQ-89A(V)15 CG47 Class B/L III/IV Backfit Install (via CG MOD Program)	2	2012	2	2014

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205620N: <i>Surface ASW Cmbt Sys Integr</i>	PROJECT 9999: <i>Congressional Adds</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
9999: <i>Congressional Adds</i>	-	7.500	-	-	-	-	-	-	-	0.000	7.500
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 2011	FY 2012
<i>Congressional Add:</i> Surf ASW SBIR (Cong)	-	7.500
<i>FY 2012 Plans:</i> Provide the DESRON Commander, performing the Anti-Submarine Warfare Commander (ASWC) role, the ability to enhance the execution of Surface ASW by enabling net-centric ASW information exchange between assigned units. Currently the ASWC's two primary sensors, Periscope Detection Radar (PDR), SPS-74, and Surface Ship Sonar, AN/SQQ-89A(V)15, only provide data to the installed ship. Sharing this sensor information will dramatically improve the successful execution of the DESRON Commanders ASW mission. This funding will be used to provide engineering services that support integration, testing, evaluation, and certification of the interfaces between the Undersea Warfare - Decision Support System (USW-DSS) Build 2 and above surface ASW sensors. This will be accomplished by executing a formal test plan that includes: formal External Interface Testing (EIT); formal lab-based software certification; and multiple at-sea testing events as part of Development Testing in preparation for Operational Testing Certification.		
Congressional Adds Subtotals	-	7.500

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

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

Congressional Add.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205632N: <i>MK-48 ADCAP</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	33.912	46.759	28.717	-	28.717	25.333	25.273	25.716	26.347	Continuing	Continuing
0366: <i>MK 48 ADCAP</i>	25.953	39.259	28.717	-	28.717	25.333	25.273	25.716	26.347	Continuing	Continuing
9999: <i>Congressional Adds</i>	7.959	7.500	-	-	-	-	-	-	-	0.000	15.459

A. Mission Description and Budget Item Justification

(U) Mission Description and Budget Item Justification:

MK-48 ADCAP (Advanced Capability) Research, Development, Test and Evaluation (RDT&E) program executes incremental development of weapon performance improvements in three development product areas: (1) Common Broadband Advanced Sonar System (CBASS), (2) Advanced Processor Builds (APBs), and (3) Torpedo Technology Insertion. The budget enables Acquisition Category (ACAT) III development to address Chief of Naval Operations (CNO) defined capability-based requirements and mission needs. This Program Element (0205632N/0366) is tied to development programs that leverage a joint United States/Australia Armaments Cooperative Project (ACP) to develop MK-48 ADCAP CBASS; and Future Naval Capability (FNC) technologies developed by the Office of Naval Research (ONR).

(U) Countermeasure (CM) sophistication and availability on the open market directly affects ADCAP kill proficiency and its ability to counter rapidly evolving threats. The focus of the MK-48 ADCAP torpedo Research and Development (R&D) program from FY 2001 and out shifted from being primarily concentrated on Software Block Upgrade efforts towards coordinated hardware upgrades, rapid Commercial-Off-the-Shelf (COTS) insertion, and APBs to rapidly upgrade the ADCAP to counter evolving threats and maintain robust performance. The CBASS program developed and fielded a broadband sonar capable of identifying CMs and discriminating them from the target. CBASS Phase I achieved IOC in FY 2006. The Commonwealth of Australia Royal Navy is jointly participating to develop CBASS Phase II to improve shallow water performance and signed a MOA extension Nov 2009. The MOA extension expires Nov 2019.

(U) The MK-48 ADCAP torpedo R&D program focuses on two specific areas near term: Torpedo APBs and hardware tech insertions. The CNO continues to stress shallow water (less than 600 feet) as a critical operating area to counter third world diesel electric submarines. Torpedo testing in shallow water has demonstrated that in-service ADCAP has less than full capability in this difficult environment. However, this testing, in conjunction with laboratory simulation efforts, has shown that significant performance improvements can be made by implementing changes to weapon tactics and software algorithms. Development, implementation, and testing of these changes is being accomplished under the Torpedo APB program. The APB program also leverages the RAN joint torpedo program and FNC technologies developed by the ONR in the areas of torpedo broadband signal processing, tactics processing, and alertment. The Torpedo tech insertion program will leverage from MK-54 Lightweight torpedo algorithms. Further hardware investment involves development of Guidance & Control (G&C) replacement required to support production and development of Automated Test Equipment replacement to improve comprehensive system testing of full up CBASS Torpedoes.

(U) The Torpedo Technology Insertion program will provide for evolutionary torpedo improvements and upgrades (including the transition and testing of advanced technologies from the R&D community (6.2/6.3 and contractors). This approach will incorporate developmental testing of the FNC transitioning technologies for ADCAP upgrades in the areas of torpedo

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205632N: <i>MK-48 ADCAP</i>
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sensors, weapon/platform connectivity, warhead lethality, speed and depth. These efforts will continue torpedo development investment at a lower cost and shorter term than traditional torpedo programs.

(U) A modification to the CBASS Spiral 4 program was directed by CNO to address a Fleet Urgent Operation Need (UON), which enables the early fielding of specific Spiral 4 capabilities. Development of these changes are being accomplished under the APB program and are referred to as the Torpedo UON Rapid Fielding (TURF) effort. The TURF effort was inserted into CBASS Spiral 4 and was Fleet released in FY11, pushing spiral 4 IOC from 2nd Qtr FY12 to 4th Qtr FY12. The TURF effort also extended APB 5 development and delayed APB 5 IOC until 4th Qtr FY17.

(U) Both FNC technologies and MK-54 Lightweight torpedo developments will be transitioned into ADCAP through Technology Insertion packages. Priorities for Technology Insertion are a new array to improve torpedo effectiveness, advanced processing, and advanced counter-countermeasure capability.

It has been determined that program effectiveness can be improved by developing and delivering Automated Test Equipment (ATE) production restarts so development is planned to start in FY 2012. RDT&E is planned for redesign and development of obsolete components necessary to reconstitute Guidance & Control (G&C) torpedo sections.

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	26.234	39.288	29.009	-	29.009
Current President's Budget	33.912	46.759	28.717	-	28.717
Total Adjustments	7.678	7.471	-0.292	-	-0.292
• Congressional General Reductions	-	-0.029			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	7.500			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.093	-			
• Program Adjustments	-	-	-0.108	-	-0.108
• Rate/Misc Adjustments	-	-	-0.184	-	-0.184
• Congressional General Reductions Adjustments	-0.229	-	-	-	-
• Congressional Add Adjustments	8.000	-	-	-	-

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

Project: 9999: *Congressional Adds*

Congressional Add: *Small Business Technology Insertion*

	FY 2011		FY 2012
	7.959		7.500

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205632N: <i>MK-48 ADCAP</i>
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Congressional Add Details (\$ in Millions, and Includes General Reductions)

	FY 2011	FY 2012
Congressional Add Subtotals for Project: 9999	7.959	7.500
Congressional Add Totals for all Projects	7.959	7.500

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205632N: <i>MK-48 ADCAP</i>	PROJECT 0366: <i>MK 48 ADCAP</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
0366: <i>MK 48 ADCAP</i>	25.953	39.259	28.717	-	28.717	25.333	25.273	25.716	26.347	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Completion of TURF and continue Spiral 4 software development and testing; delivery of final report and completion of Spiral 4 DT/OT in FY 2012 with IOC in FY 2012;

(U) Mission Description and Budget Item Justification:

MK-48 ADCAP RDT&E program executes incremental development of weapon performance improvements in two development product areas: (1) APBs, and (2) Torpedo Technology Insertion. The budget enables ACAT III development to address CNO defined capability-based requirements and mission needs. This Program Element (0205632N/0366) is tied to development programs that leverage a joint United States/Australia ACP to develop MK-48 ADCAP; and FNC technologies being developed by the ONR.

APB Software upgrades will improve torpedo performance in challenging water, countered environments through incorporation of new algorithms designed to address broadband, multiband, classifications and tactics processing changes. Hardware technology insertions will improve weapon availability through development of a G&C replacement and an Automated Test Equipment replacement.

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

	FY 2011	FY 2012	FY 2013
Title: TORPEDO APB	24.953	37.759	28.717
Articles:	0	0	0
FY 2011 Accomplishments:			
Finalize Spiral 4 Software development and start OT (\$20,147K).			
Develop UON specific software version and support Quick Reaction Assessment (QRA) to field TURF by 2nd Qtr FY11(\$4,806K).			
FY 2012 Plans:			
Operational Support, Program Sustainment, and Spiral 4 OT (\$21,359K).			
Conduct development of the RDTE Guidance Control (G&C) initiative to support production restart efforts on G&C components so 50 G&Cs can be matched up with arrays and AB/TCs thus increasing inventory numbers(\$11,500K).			
Start development of Automated Test Equipment (ATE) replacement (\$4,900K).			
FY 2013 Plans:			
Operational Support, Program Sustainment, and APB 5 development(\$14,895K).			
Conduct Test & Evaluation of APB 5 (\$8,922K).			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205632N: <i>MK-48 ADCAP</i>	PROJECT 0366: <i>MK 48 ADCAP</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Restart development of Automated Test Equipment (ATE) replacement (\$4,900K).			
Title: OPERATIONAL TEST SUPPORT			
Articles:	1.000 0	1.500 0	-
FY 2011 Accomplishments: Continue Spiral 4 development. Complete TURF.			
FY 2012 Plans: Complete Spiral 4 OT.			
Accomplishments/Planned Programs Subtotals	25.953	39.259	28.717

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

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• WPN/3225: <i>MK-48 Torpedo ADCAP Mods</i>	29.628	42.493	54.281	0.000	54.281	59.395	63.753	64.728	52.999	Continuing	Continuing

D. Acquisition Strategy
Sole Source Production Contract awarded in FY 2004 for MK-48 ADCAP MODS, Lightweight MK-54, and Common Broadband Advanced Sonar System (CBASS) kits, including Royal Australian Navy (RAN) units. A full and competitive procurement for MK46 Mod 7 CBASS production kits was awarded in March 2011 with a FY 2010/2011 base year and four option years for FY 2012-2015.

E. Performance Metrics
Milestone Reviews.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205632N: <i>MK-48 ADCAP</i>	PROJECT 0366: <i>MK 48 ADCAP</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 (NPT):Newport RI	12.515	11.500	Oct 2011	11.206	Oct 2012	-		11.206	Continuing	Continuing	Continuing
Primary Hardware Development	C/CPFF	Progeny:Manassas VA	10.852	-		-		-		-	Continuing	Continuing	Continuing
Subtotal			23.367	11.500		11.206		-		11.206			

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	WR	NUWC NPT:Newport RI	15.096	4.986	Oct 2011	3.069	Oct 2012	-		3.069	Continuing	Continuing	Continuing
Software Development	Various	Various:Not Specified	36.317	3.672	Dec 2011	-		-		-	Continuing	Continuing	Continuing
Integrated Logistics Support	WR	NUWC NPT:Newport RI	2.243	0.263	Oct 2011	-		-		-	Continuing	Continuing	Continuing
Systems Engineering WCF	WR	NUWC NPT:Newport RI	17.750	1.650	Oct 2011	-		-		-	Continuing	Continuing	Continuing
Systems Engineering	Various	NUWC NPT:Newport RI	0.110	4.900	Dec 2011	4.900	Dec 2012	-		4.900	0.000	9.910	
Subtotal			71.516	15.471		7.969		-		7.969			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	NUWC NPT:Newport RI	10.586	3.467	Oct 2011	-		-		-	Continuing	Continuing	Continuing
Operational Test & Evaluation	WR	Operational Test Force:Norfolk VA	7.033	0.250	Nov 2011	0.450	Oct 2012	-		0.450	Continuing	Continuing	Continuing
Modeling & Simulation	WR	NUWC NPT:Newport RI	9.745	-		-		-		-	Continuing	Continuing	Continuing
Modeling & Simulation	C/CPFF	ARL / PSU:State College PA	5.700	1.500	Dec 2011	1.988	Dec 2012	-		1.988	Continuing	Continuing	Continuing
Test & Evaluation	WR	NUWC Keyport (KPT):Keyport WA	21.696	6.400	Oct 2011	6.484	Dec 2012	-		6.484	0.000	34.580	
Subtotal			54.760	11.617		8.922		-		8.922			

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205632N: <i>MK-48 ADCAP</i>	PROJECT 0366: <i>MK 48 ADCAP</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 0366				
Software Development: Spiral 4 Developmental Test (DT)	1	2011	2	2011
Software Development: Spiral 4 Operational Test (OT)	2	2011	4	2012
Software Development: Spiral 4 IOC	4	2012	4	2012
Software Development: TURF QRA	1	2011	2	2011
Software Development: TURF QRA 1	2	2011	2	2011
Software Development: TURF 1 Fielded (IOC)	2	2011	2	2011
Software Development: APB 5 Development	1	2011	3	2013
Software Development: APB 5 Developmental Test (DT)	3	2013	2	2015
Software Development: APB 5 Operational Test (OT)	3	2015	4	2017
Software Development: APB 5 IOC	4	2017	4	2017
Software Development: APB 6 Development	1	2016	4	2017
Technology Insertion -1 (TI-1): Technical Insertion (TI-1) Development	1	2016	4	2017
Guidance and Production Restart Efforts: Guidance and Production Restart Efforts	1	2012	4	2013
Automated Test Equipment Production Restart Efforts: Automated Test Equipment Production Restart Efforts	1	2012	4	2013

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205632N: <i>MK-48 ADCAP</i>	PROJECT 9999: <i>Congressional Adds</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
9999: <i>Congressional Adds</i>	7.959	7.500	-	-	-	-	-	-	-	0.000	15.459
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Congressional add for Small Business Technology Insertion.

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

	FY 2011	FY 2012
Congressional Add: Small Business Technology Insertion	7.959	7.500
FY 2011 Accomplishments: FY11 Congressional Add used to develop array and array electronics upgrades.		
FY 2012 Plans: Continue array electronics upgrades.		
Congressional Adds Subtotals	7.959	7.500

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

N/A

D. Acquisition Strategy

Congressional Adds

E. Performance Metrics

Congressional Adds

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	90.987	100.415	89.157	-	89.157	96.658	115.398	108.404	110.392	Continuing	Continuing
0601: <i>Acft Handling & Service Equip</i>	1.010	1.817	3.221	-	3.221	3.180	3.234	3.249	3.312	Continuing	Continuing
0852: <i>Consolidated Auto Support System</i>	31.773	28.493	8.325	-	8.325	6.510	6.641	6.748	6.867	Continuing	Continuing
1041: <i>Acft Equip Repl/Maint Prog</i>	4.172	3.020	3.238	-	3.238	3.281	3.351	3.402	3.467	Continuing	Continuing
1355: <i>Propulsion and Power Component Improvement Program</i>	50.161	62.379	61.296	-	61.296	70.809	91.074	95.005	96.746	Continuing	Continuing
2269: <i>EAF Matting</i>	-	4.705	13.077	-	13.077	12.878	11.098	-	-	0.000	41.758
3189: <i>Digital I-TER</i>	-	0.001	-	-	-	-	-	-	-	0.000	0.001
3190: <i>Multi-Purpose Bomb Racks</i>	3.871	-	-	-	-	-	-	-	-	0.000	3.871

Note

The Navy canceled the Multi-Purpose Bomb Rack (MPBR) program in April 2011. Budget exhibits reflect cancellation.

The Expeditionary Airfields (EAF) program is a FY2012 New Start. It was previously budgeted for in Program Element 0205633N project 0601.

A. Mission Description and Budget Item Justification

Project 0601 - Common Ground Equipment is a Naval Aviation Project to apply new technology to common support equipment necessary to support multiple aircraft. Project 0852 - Consolidated Automated Support System is a standardized Automated Test Equipment with computer assisted, multi-function capabilities to support the maintenance of aircraft subsystems and missiles. Project 1041 - Aircraft Equipment Reliability/Maintainability Improvement Program is the only Navy program that provides engineering support for in-service out-of-production aircraft equipment, and provides increased readiness at reduced operational and support cost. Project 1355 - Aircraft Engine Component Improvement Program develops reliability and maintainability and safety enhancements for in-service Navy aircraft engines, transmissions, propellers, starters, auxiliary power units, electrical generating systems, fuel systems, fuels, and lubricants. Project 2269 - The EAF program designs, develops, tests and fields components of a heat resistant lightweight airfield surfacing system and resistant that will support the deployment of the Joint Strike Fighter in austere environments worldwide and a sustainment lighting system to replace existing obsolete legacy EAF lighting system. Project 3189 - is the Digital Improved Triple Ejector Rack (ITER) program. The Digital ITER develops an increased capability to the existing BRU-42 Improved Triple Ejector Rack for the AV-8B, which adds a multiple carriage capability for Smart Weapons. Project 3190 - is the Multi-Purpose Bomb Rack (MPBR). The MPBR was to replace the BRU-41 / 42 / 33 / 55 for the F/A-18E/F platform and provide for the carriage and release of both tactical and training stores on one common rack. This project has been terminated. The last programmatic event will be the Systems Requirement Review. A stop work has been issued and contract termination cost determinations are under way.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE				
1319: <i>Research, Development, Test & Evaluation, Navy</i>	PE 0205633N: <i>Aviation Improvements</i>				
BA 7: <i>Operational Systems Development</i>					

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	133.611	123.012	118.817	-	118.817
Current President's Budget	90.987	100.415	89.157	-	89.157
Total Adjustments	-42.624	-22.597	-29.660	-	-29.660
• Congressional General Reductions	-	-0.008			
• Congressional Directed Reductions	-	-22.589			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	2.500	-			
• SBIR/STTR Transfer	-1.887	-			
• Program Adjustments	-	-	-29.728	-	-29.728
• Rate/Misc Adjustments	-	-	0.068	-	0.068
• Congressional Recision Adjustments	-10.000	-	-	-	-
• Congressional General Reductions Adjustments	-0.516	-	-	-	-
• Congressional Directed Reductions Adjustments	-32.721	-	-	-	-

Change Summary Explanation

Schedule:

Project 0601: Schedule for Carrier/Amphibious Assault Ship Crash Crane added (FY13 New Start). Hydraulic Test Stand Milestone B moved from 1st Quarter 2011 to 1st Quarter 2012.

Project 0852: No changes to schedule.

Project 3190: The Navy canceled the Multi-Purpose Bomb Rack program in April 2011. Budget exhibits reflect cancellation.

Technical:

Not Applicable

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>				PROJECT 0601: <i>Acft Handling & Service Equip</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
0601: <i>Acft Handling & Service Equip</i>	1.010	1.817	3.221	-	3.221	3.180	3.234	3.249	3.312	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Common Ground Equipment is a Naval Aviation project to apply new technology to common support equipment necessary to support multiple systems/aircraft within the Navy. The common support equipment items developed with this budget are briefed to the Air Force, Army and Coast Guard for possible use in joint procurement in the production phase.

New Programs are Aircraft Spotting Dolly (ASD) in FY12 and Carrier/Amphibious Assault Ship Crash Crane (CV/AACC) in FY13. ASD is an R&D program to develop next generation ASD. New ASD requires low profile and alternative power to allow safe spotting of all aircraft aboard carrier/amphibious class ships. CV/AACC are required to remove damaged aircraft from the flight line. R&D resources are needed to identify not only replacements, but new technologies, which can increase the reliability and maintainability of this flight ops critical piece of equipment.

PEMA funding supports the evaluation, testing and integration to develop Portable Electronic Maintenance Aids (PEMA) Commercial Off the Shelf solution for portable device deployments across the Naval Aviation Enterprise. PEMA is a portable device utilized by maintainers with the implementation of digital maintenance capabilities (digital publications, Interactive Electronic Technical Manuals, Internet Protocol based data uploads, Binary digit data downloads, automated diagnostics, and planeside Naval Aviation Logistics Command/Management Information System. PEMAs are a mandatory display device supporting modern day Automated Maintenance Environment implemented for weapon systems.

The Expeditionary Airfields (EAF) program is a FY2012 New Start. It was previously budgeted for in PE 0205633N project 0601.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Shipboard Firefighting Vehicle (SFV)	1.010	-	-	-	-
Articles:	1				
Description: The SFV program objective is to provide a safe reliable and maintainable way to support air capable ships with flight deck fire suppression during flight operations. The acquisition approach is to develop, acquire, validate, deploy and support production utilizing the lessons learned from the current firefighting vehicle and new emerging technology. This will enable integration of this capability into a new firefighting vehicle, which will be fully capable to support the current and future flight deck fire suppression missions.					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 0601: <i>Acft Handling & Service Equip</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<p><i>FY 2011 Accomplishments:</i> Contract with Entwistle initiated for prototype kits. Received delivery in June 2011.</p> <p><i>Title:</i> Aircraft Spotting Dolly (ASD)</p> <p align="right"><i>Articles:</i></p> <p><i>Description:</i> There are no commercially available towing vehicles that could even be modified to replace the capabilities of the present SD-2. An R & D effort will be required to design its replacement. Advances in batteries and alternating current motor drive systems in the past decade have made it feasible to design an electrically powered vehicle for the CV, CVN, and L-Class hanger deck spotting missions. Such a vehicle will be inherently more reliable, reduce maintenance, and eliminate the fumes and noise generated by a diesel engine. An electrically driven vehicle will provide much greater motion control for slow speeds to aid in the engagement to the aircraft nose gear. Proximity sensors will be incorporated to automatically stop the spotting dolly prior to accidental impact with the aircraft, other support equipment or bulkheads, increasing the safety of the spotting operations. The legacy ASD is close to thirty years old and experiencing parts obsolescence issues and general efficiency degradation.</p> <p><i>FY 2012 Plans:</i> Initiate prototype development of ASD.</p> <p><i>FY 2013 Base Plans:</i> Procure prototype of ASD.</p>	-	0.957 1	2.009 1	-	2.009 1
<p><i>Title:</i> Hydraulic Test Stand (HTS)</p> <p align="right"><i>Articles:</i></p> <p><i>Description:</i> The HTS Program is to provide a single test stand to replace all of the existing hydraulic test units; Hydraulic Components Test Stand, HCT-10, and Pump & Motor test stand. This will simplify supply support, reduce the stock system footprint, reduce training requirements, introduce new technology, consolidate space requirements in the hydraulic shops and eliminate the part obsolescence issues that are now beginning to emerge and grow. The requirements that cannot be met by commercial off the shelf commercial off the shelf items are Shock, Vibration, Electromagnetic Interference, Military Van compatible, and hardened electrical components. These areas will all require R & D.</p> <p><i>FY 2012 Plans:</i></p>	-	0.388 1	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 0601: <i>Acft Handling & Service Equip</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Initiate prototype development contractor/government testing of HTS.					
<p>Title: Carrier/Amphibious Assault Ship Crash Crane (CV/AACC)</p> <p align="right">Articles:</p> <p>Description: CV/AACC are required to remove damaged aircraft from the flight line. In 2004, a solicitation for a commercial off the shelf replacement for the existing shipboard crash crane was issued. Two bids were received, and after a complete evaluation with many rounds of discussions with the companies bidding, both proposals were found to be technically inadequate and the procurement effort was discontinued. As a result, the crash cranes have continued operation unchanged. Designed in the late 1980's, major systems are beginning to experience the obsolescence of spare parts and are in need of updating. R&D resources are needed to identify not only replacements, but new technologies, which can increase the reliability and maintainability of this flight ops critical piece of equipment. Systems updates would include the engine/generator and electrical updates to the motor drive/control system. An exploration of power sources other than diesel engines would be considered and a corrosion resistant boom.</p> <p>FY 2013 Base Plans: Initiate prototype development of CV/AACC.</p>	-	-	0.714 0	-	0.714 0
<p>Title: Portable Electronic Maintenance Aid (PEMA)</p> <p align="right">Articles:</p> <p>Description: 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. PEMA is a portable device utilized by maintainers with the implementation of digital maintenance capabilities (digital publications, Interactive Electronic Technical Manuals, Internet Protocol based data uploads, Binary digit data downloads, automated diagnostics, and planeside Naval Aviation Logistic Command Management Information System. PEMAs are a mandatory display device supporting modern day Automated Maintenance Environment implemented for weapon systems.</p> <p>FY 2012 Plans: Evaluate, test and integrate evolving COTS solutions. Conduct 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.</p> <p>FY 2013 Base Plans:</p>	-	0.472 0	0.498 0	-	0.498 0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 0601: <i>Acft Handling & Service Equip</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
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.					
Accomplishments/Planned Programs Subtotals	1.010	1.817	3.221	-	3.221

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

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013 Base</u>	<u>FY 2013 OCO</u>	<u>FY 2013 Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• APN/0705: <i>Ground Support Equipment</i>	141.335	132.473	124.635	2.380	127.015	128.927	136.629	131.458	135.944	Continuing	Continuing
• OPN/4264: <i>Portable Electronic Maintenance Aids</i>	10.554	7.875	7.954	0.000	7.954	5.544	4.270	4.349	4.433	Continuing	Continuing

D. Acquisition Strategy

Common Ground Equipment: This is a non ACAT program. Field activities propose tentative projects. Internal panel merits and selects projects. Field activities develop projects and submit results. Operational Advisory Group process selects projects to transition to procurement.

Portable Electronic Maintenance Aids: The management approach includes the Program Management Office residing at NAVAIR with Milestone Decision Authority 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 Indefinite Delivery/Indefinite Quantity contracts.

E. Performance Metrics

Milestone Reviews

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 0601: <i>Acft Handling & Service Equip</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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-SFV	SS/CPFF	ENTWISTLE:HUDSON, MA	2.530	-		-		-		-	0.000	2.530	2.530
Systems Engineering-SFV	WR	NAWCAD:LAKEHURST, NJ	1.224	-		-		-		-	0.000	1.224	
Systems Engineering-HTS	WR	NAWCAD:LAKEHURST, NJ	-	0.299	Nov 2011	-		-		-	0.000	0.299	
Primary Hardware Dev--ASD	C/FFP	TBD:TBD	-	0.516	Mar 2012	1.509	Mar 2013	-		1.509	Continuing	Continuing	Continuing
Systems Engineering-ASD	WR	NAWCAD:LAKEHURST, NJ	-	0.441	Nov 2011	0.500	Nov 2012	-		0.500	Continuing	Continuing	Continuing
Systems Engineering-CV/AACC	WR	NAWCAD:LAKEHURST, NJ	-	-		0.714	Nov 2012	-		0.714	Continuing	Continuing	Continuing
Prior Year Prod Dev	Various	Various:Various	13.763	-		-		-		-	0.000	13.763	
Subtotal			17.517	1.256		2.723		-		2.723			

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Prior Year Support	Various	Various:Various	8.857	-		-		-		-	0.000	8.857	
Subtotal			8.857	-		-		-		-	0.000	8.857	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 - HTS	WR	NAWCAD:LAKEHURST, NJ	-	0.089	Dec 2011	-		-		-	0.000	0.089	
Operational T & E - PEMA	WR	NAWCAD:PAX RIVER, MD	-	0.472	Nov 2011	0.498	Nov 2012	-		0.498	Continuing	Continuing	Continuing
Prior Year T & E	Various	Various:Various	0.500	-		-		-		-	0.000	0.500	

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 0601: <i>Acft Handling & Service Equip</i>
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SHIPBOARD FIREFIGHTING VEHICLE (SFV)	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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				FRP DECISION ◆																								
Systems Development																												
Hardware Development	ECP DEVELOPMENT PROTOTYPE PHASE			ECP COMPLETE ▼																								
Test & Evaluation																												
C & G Test	C & G Test																											
Production Milestones																												
Full Rate Production Deliveries																												

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 0601: <i>Acft Handling & Service Equip</i>
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AIRCRAFT SPOTTING DOLLY (ASD)	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017											
	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 ▲																MS C ▲															
Systems Development																																				
Hardware Development					PROTOTYPE PHASE																															
Test & Evaluation																																				
Test & Evaluation									C & G Test																											
Production Milestones																																				
Deliveries																																				

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 0601: <i>Acft Handling & Service Equip</i>
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HYDRAULIC TEST STAND (HTS)	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017							
	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																																
Test & Evaluation																																
C & G Test																																
Production Milestones																																
LRIP 1 APN																																
FRP START																																

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>
PROJECT 0601: <i>Acft Handling & Service Equip</i>	

CARRIER/AMPHIBIOUS ASSAULT SHIP CRASH CRANE (CV/AACC)	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017						
	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									ECP DEVELOPMENT																						
Test & Evaluation																															
C & G Test																															
Production Milestones																															

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 0601: <i>Acft Handling & Service Equip</i>
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PORTABLE ELECTRONIC MAINTENANCE AIDS (PEMA)	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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																												
Contract Award				3				4					5					6					7					8
Requirements					Study 3				Study 4					Study 5					Study 6					Study 7				Study 8
Engineering Change Proposal By T/M/S						ECP 3				ECP 4					ECP 5					ECP 6					ECP 7			ECP 8
Image Development By T/M/S						Image Devel 3				Image Devel 4					Image Devel 5					Image Devel 6					Image Devel 7			Image Devel 8
Test & Evaluation																												
Functional Regression Testing								F/R Test 3				F/R Test 4				F/R Test 5				F/R Test 6				F/R Test 7			F/R Test 8	
Independent Validation & Verification Testing								V/V Test 3				V/V Test 4				V/V Test 5				V/V Test 6				V/V Test 7			V/V Test 8	
Production Milestones																												
Deliveries																												
Production Deliveries								Rel 3				Rel 4				Rel 5				Rel 6				Rel 7			Rel 8	

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 0601: <i>Acft Handling & Service Equip</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
SHIPBOARD FIREFIGHTING VEHICLE (SFV)				
Acquisition Milestones: SFV-FULL RATE PRODUCTION (FRP) DECISION	4	2011	4	2011
Systems Development: Hardware Development: SFV-ECP DEVELOPMENT PROTOTYPE PHASE	1	2011	2	2011
Systems Development: Hardware Development: SFV-ECP COMPLETE	4	2011	4	2011
Test & Evaluation: SFV-CONTRACTOR AND GOVT RUN TESTING	1	2011	4	2011
AIRCRAFT SPOTTING DOLLY (ASD)				
Acquisition Milestones: Milestones: ASD-MILESTONE B	1	2012	1	2012
Acquisition Milestones: Milestones: ASD-MILESTONE C	4	2015	4	2015
Systems Development: Hardware Development: ASD-PROTOTYPE PHASE	1	2012	4	2014
Test & Evaluation: ASD-CONTRACTOR AND GOVT RUN TESTING	1	2013	3	2015
HYDRAULIC TEST STAND (HTS)				
Acquisition Milestones: Milestones: HTS-MILESTONE B	1	2012	1	2012
Acquisition Milestones: Milestones: HTS-MILESTONE C	4	2013	4	2013
Systems Development: Hardware Development: HTS-PROTOTYPE PHASE	1	2012	2	2013
Test & Evaluation: HTS-CONTRACTOR AND GOVT RUN TESTING	4	2012	4	2013
Production Milestones: HTS-START LOW RATE INITIAL PRODUCTION (LRIP) 1 - APN	2	2014	2	2014
Production Milestones: HTS-FULL RATE PRODUCTION (FRP) START	1	2015	1	2015
CARRIER/AMPHIBIOUS ASSAULT SHIP CRASH CRANE (CV/AACC)				
Acquisition Milestones: Milestones: MILESTONE C	4	2015	4	2015
Systems Development: Hardware Development: CV/AACC-ECP DEVELOPMENT	1	2013	1	2015
Test & Evaluation: CV/AACC-CONTRACTOR AND GOVT RUN TESTING	1	2014	3	2015

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 0601: <i>Acft Handling & Service Equip</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>PORTABLE ELECTRONIC MAINTENANCE AIDS (PEMA)</i>				
Systems Development: Contract Award: Contract Award 3	1	2012	1	2012
Systems Development: Contract Award: Contract Award 4	1	2013	1	2013
Systems Development: Contract Award: Contract Award 5	1	2014	1	2014
Systems Development: Contract Award: Contract Award 6	1	2015	1	2015
Systems Development: Contract Award: Contract Award 7	1	2016	1	2016
Systems Development: Contract Award: Contract Award 8	1	2017	1	2017
Systems Development: Requirements: Requirements Study Complete 3	2	2012	2	2012
Systems Development: Requirements: Requirements Study Complete 4	2	2013	2	2013
Systems Development: Requirements: Requirements Study Complete 5	2	2014	2	2014
Systems Development: Requirements: Requirements Study Complete 6	2	2015	2	2015
Systems Development: Requirements: Requirements Study Complete 7	2	2016	2	2016
Systems Development: Requirements: Requirements Study Complete 8	2	2017	2	2017
Systems Development: Engineering Change Proposal By T/M/S: Engineering Change Proposal By T/M/S, ECP 3	3	2012	3	2012
Systems Development: Engineering Change Proposal By T/M/S: Engineering Change Proposal By T/M/S, ECP 4	3	2013	3	2013
Systems Development: Engineering Change Proposal By T/M/S: Engineering Change Proposal By T/M/S, ECP 5	3	2014	3	2014
Systems Development: Engineering Change Proposal By T/M/S: Engineering Change Proposal By T/M/S, ECP 6	3	2015	3	2015
Systems Development: Engineering Change Proposal By T/M/S: Engineering Change Proposal By T/M/S, ECP 7	3	2016	3	2016
Systems Development: Engineering Change Proposal By T/M/S: Engineering Change Proposal By T/M/S, ECP 8	3	2017	3	2017
Systems Development: Image Development By T/M/S: Image Development By T/M/S 3	3	2012	3	2012

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 0601: <i>Acft Handling & Service Equip</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Systems Development: Image Development By T/M/S: Image Development By T/M/S 4	3	2013	3	2013
Systems Development: Image Development By T/M/S: Image Development By T/M/S 5	3	2014	3	2014
Systems Development: Image Development By T/M/S: Image Development By T/M/S 6	3	2015	3	2015
Systems Development: Image Development By T/M/S: Image Development By T/M/S 7	3	2016	3	2016
Systems Development: Image Development By T/M/S: Image Development By T/M/S 8	3	2017	3	2017
Test & Evaluation: Functional Regression Testing: Functional/Regression Testing 3	4	2012	4	2012
Test & Evaluation: Functional Regression Testing: Functional/Regression Testing 4	4	2013	4	2013
Test & Evaluation: Functional Regression Testing: Functional/Regression Testing 5	4	2014	4	2014
Test & Evaluation: Functional Regression Testing: Functional/Regression Testing 6	4	2015	4	2015
Test & Evaluation: Functional Regression Testing: Functional/Regression Testing 7	4	2016	4	2016
Test & Evaluation: Functional Regression Testing: Functional/Regression Testing 8	4	2017	4	2017
Test & Evaluation: Independent Validation & Verification Testing: Independent Validation & Verification Testing 3	4	2012	4	2012
Test & Evaluation: Independent Validation & Verification Testing: Independent Validation & Verification Testing 4	4	2013	4	2013
Test & Evaluation: Independent Validation & Verification Testing: Independent Validation & Verification Testing 5	4	2014	4	2014
Test & Evaluation: Independent Validation & Verification Testing: Independent Validation & Verification Testing 6	4	2015	4	2015
Test & Evaluation: Independent Validation & Verification Testing: Independent Validation & Verification Testing 7	4	2016	4	2016
Test & Evaluation: Independent Validation & Verification Testing: Independent Validation & Verification Testing 8	4	2017	4	2017

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 0601: <i>Acft Handling & Service Equip</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Deliveries: Production Deliveries: Production Delivery, Release 3	4	2012	4	2012
Deliveries: Production Deliveries: Production Delivery, Release 4	4	2013	4	2013
Deliveries: Production Deliveries: Production Delivery, Release 5	4	2014	4	2014
Deliveries: Production Deliveries: Production Delivery, Release 6	4	2015	4	2015
Deliveries: Production Deliveries: Production Delivery, Release 7	4	2016	4	2016
Deliveries: Production Deliveries: Production Delivery, Release 8	4	2017	4	2017

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 0852: <i>Consolidated Auto Support System</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
0852: <i>Consolidated Auto Support System</i>	31.773	28.493	8.325	-	8.325	6.510	6.641	6.748	6.867	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The electronic Consolidated Automated Support System (eCASS) project is the system design and development of the latest generation of the US Navy's CASS family of automatic test systems. The legacy CASS system was designed and developed in the 1980's and commenced fielding in 1992. As such, it is reaching the end of its useful life due to obsolescence issues. eCASS is the replacement system for legacy CASS systems, which provides Naval aircraft avionics component maintenance and repair support at Intermediate and Depot maintenance facilities both shore-based and afloat. As a CASS replacement program, the eCASS program objectives remain the same as that of CASS. Specifically: (1) increase material readiness; (2) reduce life cycle costs; (3) improve tester sustainability at depot and intermediate maintenance levels; (4) reduce proliferation of unique test equipment, and (5) provide test capability for existing and emerging avionics/electronics aircraft weapon systems.

The Test Technology Development project involves analysis, application, maturation, integration and testing of emerging electronic, mechanical and optical test technologies for potential military utility in support of Naval avionics testing and repair. Specific technologies being developed include synthetic instruments, new Advanced Targeting Forward Looking Infrared electro-optics capabilities, multi-analog test capability to enable functional testing, and modernization elements for the CASS family of automatic test systems.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: eCASS Development	30.954	27.668	7.925	-	7.925
Articles:	0	6	6		6
Description: Develop, integrate and test an Automatic Test System (ATS) to replace legacy CASS systems. The new ATS will be compatible with and capable of hosting the hundreds of existing Test Programs that are currently utilized on legacy CASS at the Intermediate and Depot levels of maintenance, as well as any emerging Test Programs that may require greater test capability than provided by legacy CASS.					
FY 2011 Accomplishments: Conduct eCASS system Preliminary Design Review and perform Advance Development Model integration.					
FY 2012 Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 0852: <i>Consolidated Auto Support System</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Conduct eCASS system Critical Design Review, procure initial Engineering Development Models, initiate Test Program Set integration, and conduct Test Readiness Review (TRR). Commence Developmental Test DT-B1 and DT-B2 test events. FY 2013 Base Plans: Continue Test Program Set integration. Conduct Production Readiness Review. Conduct Milestone C Review. Conduct Test Readiness Review. Commence DT-C1 test event.					
Title: Test Technology Development Description: Develops, integrates, and evolves enhanced test capabilities and technologies for insertion into the CASS family of test systems. As weapon system electronics evolve, new test capabilities are required to support advanced systems. Existing test capabilities must be extended in range, accuracy, time and frequency domains in order to sustain the required test accuracy ratios for weapon systems support (the automatic test system must be four times as accurate as the asset being tested). FY 2011 Accomplishments: Continue to develop, integrate, and evolve enhanced test capabilities and technologies for insertion into the CASS family of test systems. FY 2012 Plans: Continue to develop, integrate, and evolve enhanced test capabilities and technologies for insertion into the CASS family of test systems. FY 2013 Base Plans: Continue to develop, integrate, and evolve enhanced test capabilities and technologies for insertion into the CASS family of test systems.	0.819 1	0.825 1	0.400 1	-	0.400 1
Articles:					
Accomplishments/Planned Programs Subtotals	31.773	28.493	8.325	-	8.325

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

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• APN/0705: <i>Common Ground Equip APN-7</i>	35.007	75.614	93.186	0.000	93.186	93.870	95.562	96.533	98.438	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 0852: <i>Consolidated Auto Support System</i>

D. Acquisition Strategy

Formal test technology reviews with industry are conducted annually (cooperative Joint Services initiative) to define maturity of needed technologies. Further studies are conducted as needed. Procurement strategy is determined by market survey and cooperative opportunities.

E. Performance Metrics

Milestone Reviews

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 0852: <i>Consolidated Auto Support System</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 eCASS	C/CPIF	LOCKHEED MARTIN:ORLANDO, FL	43.062	23.426	Dec 2011	5.700	Dec 2012	-		5.700	Continuing	Continuing	Continuing
Primary Hdw Dev Test Technology	C/CPFF	Various:Various	0.882	0.450	Dec 2011	0.300	Dec 2012	-		0.300	Continuing	Continuing	Continuing
Prior Year Prod Dev	Various	Various:Various	28.397	-		-		-		-	0.000	28.397	
Subtotal			72.341	23.876		6.000		-		6.000			

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
eCASS Support	WR	Various:Various	2.451	2.000	Jan 2012	0.956	Jan 2013	-		0.956	Continuing	Continuing	Continuing
eCASS Support	WR	NAWC AD:Lakehurst, NJ	4.400	1.992	Jan 2012	1.052	Jan 2013	-		1.052	Continuing	Continuing	Continuing
Test Technology Support	WR	Various:Various	0.450	0.275	Jan 2012	-		-		-	Continuing	Continuing	Continuing
Prior Year Support	Various	Various:Various	12.403	-		-		-		-	0.000	12.403	
Subtotal			19.704	4.267		2.008		-		2.008			

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
eCASS Travel	WR	Various:Various	0.447	0.250	May 2012	0.217	May 2013	-		0.217	Continuing	Continuing	Continuing
Test Tech Travel	WR	Various:Various	0.200	0.100	May 2012	0.100	May 2013	-		0.100	Continuing	Continuing	Continuing
Prior Year Mgmt	Various	Various:Various	1.669	-		-		-		-	0.000	1.669	
Subtotal			2.316	0.350		0.317		-		0.317			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy							DATE: February 2012				
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>			R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>			PROJECT 0852: <i>Consolidated Auto Support System</i>					
	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	94.361	28.493		8.325		-		8.325			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>
PROJECT 0852: <i>Consolidated Auto Support System</i>	

electronic Consolidated Automated Support System (eCASS)	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017																				
	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 and Software Development	System Development																																												
Test & Evaluation																																													
Development Testing																																													
Production Milestones																																													
Milestones																																													
Deliveries																																													
Deliveries																																													

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 0852: <i>Consolidated Auto Support System</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>electronic Consolidated Automated Support System (eCASS)</i>				
Acquisition Milestones: Milestones: Milestone C	2	2013	2	2013
Acquisition Milestones: Milestones: Full Rate Production Decision Review	2	2015	2	2015
Systems Development: Hardware and Software Development: eCASS System Development	1	2011	3	2015
Test & Evaluation: Development Testing: eCASS DT-B1 & B2 Testing	4	2012	1	2013
Test & Evaluation: Development Testing: eCASS DT-C1 Testing	4	2013	1	2014
Test & Evaluation: Development Testing: eCASS DT-C2 Testing	4	2014	1	2015
Production Milestones: eCASS LRIP 1-APN	2	2013	2	2013
Production Milestones: eCASS LRIP 2-APN	2	2014	2	2014

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 1041: <i>Acft Equip Repl/Maint Prog</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
1041: <i>Acft Equip Repl/Maint Prog</i>	4.172	3.020	3.238	-	3.238	3.281	3.351	3.402	3.467	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Aircraft Equipment Reliability/Maintainability Improvement Program (AERMIP) is the only Navy program which provides Research, Development, Test & Evaluation engineering support specifically for in-service, out-of-production aircraft equipment. AERMIP increases readiness through reliability, maintainability, and safety improvements to existing systems and equipment installed in Naval aircraft. It also provides a transition vehicle to deploy Total Ownership Cost reduction initiatives through flight-test support and Fleet Test & Evaluation. It meets affordable readiness objectives by providing a cost-effective solution to obsolescence problems encountered when service lives are extended. AERMIP promotes commonality and standardization across aircraft platform lines and among the services through extension of application and use of non-developmental items. AERMIP also decreases life cycle costs through reduced operational and support costs. AERMIP facilitates the Operational, Safety and Improvement Program by applying proven low-risk solutions to current fleet problems. AERMIP also funds high-priority flight testing which is not associated with any acquisition or development program under the Flight Test General task.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Avionics and Wiring	0.983	0.860	0.713	-	0.713
Articles:	0	0	0		0
FY 2011 Accomplishments: Qualified materials or pieces of equipment and the procedures/process required for their implementation. Pursued next-generation wiring, battery, and generator diagnosis and prognostics methods, and prove the applicability to Naval aviation. Addressed avionics-related reliability issues impacting multiple aircraft platforms.					
FY 2012 Plans: Qualify additional materials or pieces of equipment and the procedures/process required for their implementation. Test and evaluate off-board diagnostic equipment for generator diagnostics/prognostics. Refine algorithms for multiple battery models, including lithium chemistries. Continue testing in aircraft simulated environment. Pursue next-generation wiring, battery, and generator diagnosis and prognostics methods, and prove the applicability to Naval aviation. Address avionics-related reliability issues impacting multiple aircraft platforms.					
FY 2013 Base Plans: Perform sustained operational testing on materials, equipment, and the procedures/process required for their implementation, continuing to refine their operation in real-world environments, including off-board equipment					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy			DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>		PROJECT 1041: <i>Acft Equip Repl/Maint Prog</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					
for generator and battery diagnostics and prognostics. Continue to enhance algorithms for multiple battery models covering additional legacy platforms. Pursue next-generation wiring, battery, and generator diagnosis and prognostics methods, and prove the applicability to Naval aviation. Address emergent avionics and wiring-related reliability issues impacting multiple aircraft platforms.					
Title: Air Vehicle					
Articles:					
FY 2011 Accomplishments: Qualified materials or pieces of equipment and the procedures/process required for their implementation. Developed new methods of structural repair. Evaluated new methods of corrosion prevention control. Evaluated non-solvent plasma method to remove hydraulic contamination. Pursued subsystem improvements by increasing component reliability. Finalized titanium tubing crack detection methodology and tooling. Explored additional areas where tooling and methodology to detect cracks using 3D imagery can benefit Naval aviation. Qualified and implemented advanced non-chrome primers with corrosion protection properties.					
FY 2012 Plans: Qualify additional materials or pieces of equipment and the procedures/process required for their implementation. Develop new methods of structural repair with focus on lightweight, high-cost, and low observability platforms. Expand focus of human factors and advanced materials/coatings in corrosion prevention control. Expand use of protective coatings on aircraft components to resist abrasion, wear, and corrosion, while lowering maintenance hours and cost.					
FY 2013 Base Plans: Perform sustained operational testing on materials, equipment, and the procedures/process required for their implementation, continuing to refine their operation in real-world environments. Develop expanded methods of structural repair with focus on low cost and reduced labor procedures that can be done in fleet environments. Continue expansion of human factors focus and advanced materials and coatings in corrosion prevention control. Based on advancement in material sciences, test and qualify new materials or equipment technologies and the procedures/process required for their implementation to improve operational reliability, while containing cost growth.					
Title: Systems Engineering Revitalization					
Articles:					
FY 2011 Accomplishments:					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 1041: <i>Acft Equip Repl/Maint Prog</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<p>Continued validation of leading indicators for effectiveness. Continued development of improved four-phase system and Systems Engineering Technical Review (SETR) process. Using communications strategy developed in previous year and web-based tool, delivered usable validated products to engineering and program teams.</p> <p>FY 2012 Plans: Complete initial version of the SETR web-based checklist tool. Identify web-tool critical limitations and implement changes and improvements within the tool. Investigate systems engineering processes and tools across Naval Air Systems Command domains inclusive of end item performance derivation from operational requirements and the associated concept of operations, with the derivation remaining relevant to the mission and system architectures.</p> <p>FY 2013 Base Plans: Perform continuous and systematic update of the Systems Engineering Technical Review web-based checklist tool. Continue to identify web-tool critical limitations and implement changes and improvements within the tool to increase the effectiveness and efficiency of the tool. Continue to investigate systems engineering processes and tools across Naval Air Systems Command domains, inclusive of end item performance derivation from operational requirements and the associated concept of operations, with the derivation remaining relevant to the mission and system architectures and the goals of improving operational reliability while containing life-cycle costs.</p>					
<p>Title: NAE Corrosion</p> <p align="right">Articles:</p> <p>FY 2011 Accomplishments: Continued to design, test, and implement CSIC aluminum gearboxes as alternatives to magnesium alloy gearboxes. Demonstrated and validated conducting paint and sealants with less noble galvanic potential and which provide acceptable electrical performance with much lower propensity to cause corrosion of airframe and components. Investigated products such as advanced performance topcoats designed to decrease cost of re-painting aircraft by extending service life of paint.</p>	0.702 0	-	-	-	-
Accomplishments/Planned Programs Subtotals	4.172	3.020	3.238	-	3.238

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

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 1041: <i>Acft Equip Repl/Maint Prog</i>

D. Acquisition Strategy

This is a non-ACAT program. Procurement strategy is determined by market survey and cooperative opportunities.

E. Performance Metrics

The Aircraft Equipment Reliability/Maintainability Improvement Program (AERMIP) program will, at a minimum, fund 8 to 15 projects a year that investigate and evaluate reliability and maintainability improvements to in-service, out-of-production aircraft equipment. AERMIP projects will have a greater than 75% success rate of insertion into Department of the Navy warfighting systems or support infrastructure.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 1041: <i>Acft Equip Repl/Maint Prog</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 - Avionics/Wiring	WR	NAWCAD:Patuxent River, MD	4.590	0.512	Nov 2011	0.293	Oct 2012	-		0.293	Continuing	Continuing	Continuing
Sys Eng - Avionics/Wiring	C/FFP	Various:Various	0.505	-		0.050	Feb 2013	-		0.050	0.000	0.555	0.555
Sys Eng - Avionics/Wiring	C/FFP	GEM Power:Redlands, CA	-	0.108	Mar 2012	0.100	Mar 2013	-		0.100	0.000	0.208	0.208
Sys Eng - Avionics/Wiring	C/FFP	PCKA:West Lafayette, IN	-	0.146	Mar 2012	0.100	Mar 2013	-		0.100	0.000	0.246	0.246
Sys Eng - Avionics/Wiring	WR	FRC:Cherry Point, NC	-	-		0.100	Nov 2012	-		0.100	Continuing	Continuing	Continuing
Sys Eng - Air Vehicle	WR	NAWCAD:Patuxent River, MD	6.119	0.795	Nov 2011	0.652	Oct 2012	-		0.652	Continuing	Continuing	Continuing
Sys Eng - Air Vehicle	WR	FRC:San Diego, CA	0.508	0.109	Dec 2011	0.130	Nov 2012	-		0.130	Continuing	Continuing	Continuing
Sys Eng - Air Vehicle	WR	FRC:Cherry Point, NC	0.428	0.108	Dec 2011	0.224	Nov 2012	-		0.224	Continuing	Continuing	Continuing
Sys Eng - Air Vehicle	WR	FRC:Jacksonville, FL	0.460	0.103	Dec 2011	0.275	Nov 2012	-		0.275	Continuing	Continuing	Continuing
Sys Eng - Air Vehicle	C/FFP	Various:Various	0.712	0.089	Mar 2012	0.211	Jan 2013	-		0.211	0.000	1.012	1.013
Sys Eng - SE Revitalization	WR	NAWCAD:Patuxent River, MD	0.792	0.008	Dec 2011	0.003	Oct 2012	-		0.003	Continuing	Continuing	Continuing
Sys Eng - SE Revitalization	C/FFP	L-3 Communications:Marlton, NJ	2.059	0.802	Mar 2012	0.877	Jan 2013	-		0.877	0.000	3.738	3.738
Sys Eng - NAE Corrosion	WR	NAWCAD:Patuxent River, MD	0.608	-		-		-		-	0.000	0.608	
Sys Eng - NAE Corrosion	WR	FRC:San Diego, CA	0.100	-		-		-		-	0.000	0.100	
Sys Eng - NAE Corrosion	WR	FRC:Cherry Point, NC	0.125	-		-		-		-	0.000	0.125	
Sys Eng - NAE Corrosion	WR	FRC:Jacksonville, FL	0.130	-		-		-		-	0.000	0.130	
Prior Year Prod Dev	Various	Various:Various	1.504	-		-		-		-	0.000	1.504	1.504
Subtotal			18.640	2.780		3.015		-		3.015			

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 1041: <i>Acft Equip Repl/Maint Prog</i>
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	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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
Acft Equip Repl/Maint Prog																												
Avionics & Wiring																												
High-Speed Bus Switching																												
Aircraft Battery Diagnostic & Prognostic System																												
Generator System Diagnostics & Health																												
Investigate High Value Return on Investment																												
Wiring Diagnostics and Prognostics																												
Avionics Reliability Enhancements																												
Air Vehicle																												
Improved Corrosion Preventative Compounds																												
Corrosion Prevention and Control																												
Advanced Methods of Structural Repair																												
Subsystem Improvement Initiatives																												
Sand & Erosion Resistance of APU Impeller																												
Non-Solvent Plasma																												
Titanium Tubing for Hydraulic Systems																												
Investigate High Value Return on Investment																												
Ambient Temperature Bonding																												
SE Revitalization																												
Improved Technical Excellence of Acquisition Programs																												
NAE Corrosion Improvement																												
Flight Line Canopy Shelters																												
Tape and Adhesive Remover																												
Aluminum Gearboxes																												
Conducting Paints & Sealants																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 1041: <i>Acft Equip Repl/Maint Prog</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Acft Equip Repl/Maint Prog</i>				
Avionics & Wiring: High-Speed Bus Switching	1	2011	4	2011
Avionics & Wiring: Aircraft Battery Diagnostic & Prognostic System	1	2011	4	2013
Avionics & Wiring: Generator System Diagnostics & Health	1	2011	4	2013
Avionics & Wiring: Investigate High Value Return on Investment	1	2011	4	2017
Avionics & Wiring: Wiring Diagnostics and Prognostics	1	2011	2	2014
Avionics & Wiring: Avionics Reliability Enhancements	1	2011	1	2011
Air Vehicle: Improved Corrosion Preventative Compounds	1	2011	4	2015
Air Vehicle: Corrosion Prevention and Control	1	2011	4	2014
Air Vehicle: Advanced Methods of Structural Repair	1	2011	4	2014
Air Vehicle: Subsystem Improvement Initiatives	1	2011	4	2014
Air Vehicle: Sand & Erosion Resistance of APU Impeller	1	2011	4	2011
Air Vehicle: Non-Solvent Plasma	1	2011	4	2012
Air Vehicle: Titanium Tubing for Hydraulic Systems	1	2011	4	2011
Air Vehicle: Investigate High Value Return on Investment	1	2011	4	2017
Air Vehicle: Ambient Temperature Bonding	1	2011	4	2012
SE Revitalization: Improved Technical Excellence of Acquisition Programs	1	2011	4	2017
NAE Corrosion Improvement: Flight Line Canopy Shelters	1	2011	4	2011
NAE Corrosion Improvement: Tape & Adhesive Remover	1	2011	4	2011
NAE Corrosion Improvement: Aluminum Gearboxes	1	2011	4	2011
NAE Corrosion Improvement: Conducting Paints & Sealants	1	2011	4	2011
NAE Corrosion Improvement: Investigate High Value Return on Investment	1	2011	4	2011

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy								DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>				PROJECT 1355: <i>Propulsion and Power Component Improvement Program</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
1355: <i>Propulsion and Power Component Improvement Program</i>	50.161	62.379	61.296	-	61.296	70.809	91.074	95.005	96.746	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Aircraft Engine Component Improvement Program (CIP) provides the only source of critical design and development engineering support to resolve safety, reliability and maintainability deficiencies of in-service Navy aircraft propulsion systems. The highest priority issues CIP addresses concern safety-of-flight deficiencies which account for approximately 80% of CIP efforts. The program also corrects service-revealed deficiencies, improves Operational Readiness and Reliability and Maintainability, and reduces platform Life Cycle Cost. Budgets are allocated across platform-specific teams and multi-platform product support teams based upon long term strategies to achieve safety and affordable readiness goals; the R-3 exhibit details annual portions of those long-term plans. CIP tasks have reduced the rate of in-flight aborts, safety incidents, non-mission capable rates, scheduled and unscheduled engine removals, maintenance work hours, and overall cost of ownership. This is accomplished through the maintenance and validation of specification performance, testing to qualify engineering changes, verifying life limits, and improving the inherent reliability of the propulsion system as an integral part of Reliability Centered Maintenance initiatives. Historically, the missions, tactics, and environmental exposure of military aircraft systems change to meet new threats or operational demands, and often result in unforeseen problems, which if not corrected, can cause critical safety/readiness degradation, such as those experienced during OPERATIONS DESERT SHIELD/DESERT STORM, ENDURING FREEDOM, and IRAQI FREEDOM due to sand erosion. In addition, new problems arise through actual fleet deployment and usage of the aircraft. System Development programs, while geared to resolve as many problems as possible before deployment, cannot duplicate actual operations or account for the vast array of environmental and usage variables, particularly when aircraft missions vary from those that the aircraft was designed to perform. Therefore, it has been found that CIP can provide an immediate engineering response to these flight-critical problems and accelerated engine testing can avoid potential problems. CIP starts after development and Navy acceptance of the first production article and addresses usage and life problems not covered by warranties. CIP addresses engines, transmissions, propellers, starters, auxiliary power units, electrical generating systems, aircraft wiring, and fuel and lubricant systems. CIP efforts continue over the system's life, gradually decreasing to a minimum level sufficient to maintain the reliability, and decrease the operating costs, of older inventory. CIP is a highly leveraged and cooperative tri-service program with Foreign Military Sales participation.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: P3, E2, C2, C130 (T56)	4.873	5.990	8.403	-	8.403
Articles:	0	0	0		0
FY 2011 Accomplishments: Conducted analytical condition inspections of high time hardware in order to identify new reliability degraders. Qualified redesigned combustor liner. Maintained life management analysis to ensure safe operation of high time					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 1355: <i>Propulsion and Power Component Improvement Program</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<p><i>FY 2011 Accomplishments:</i> Started incorporation of the new 4.5 bearing, new 4.5 bearing inner race nut torque value and torque tooling. Continued FY2010 plan. Maintenance awareness presented at Operational & Intermediate levels. Developed a Thermal Barrier Coating for the combustion chamber interior surfaces. Developed a repair for the wear found in the inlet case vane driver boss replacement.</p> <p><i>FY 2012 Plans:</i> Complete incorporation of the new 4.5 bearing, new 4.5 bearing inner race nut torque value and torque tooling. Maintenance awareness will be presented at Operational & Intermediate levels. Begin development of a Thermal Barrier Coating for the combustion chamber interior surfaces. Develop a repair for the wear found in the inlet case vane driver boss replacement.</p> <p><i>FY 2013 Base Plans:</i> Complete incorporation of torque value and torque tooling. Complete development of a Thermal Barrier Coating for the combustion chamber interior surfaces. Develop updated repair and inspection criteria for fielded components.</p>					
<p><i>Title:</i> SH-60B/F, HH-60H, MH-60R/S (T700)</p> <p align="right"><i>Articles:</i></p>	4.632 0	2.640 0	2.571 0	-	2.571 0
<p><i>FY 2011 Accomplishments:</i> Completed T700 hot restart stall mitigation through design changes. Performed redesign work to reduce impact of cost and readiness drivers for the engine and drive system.</p> <p><i>FY 2012 Plans:</i> Continue redesign work to reduce impact of cost and readiness drivers for the T700 engine. Continue a Fleet Leader of the Automatic Wire Analyzer at Naval Air Station North Island to train operators, develop procedures, and measure effectiveness. Continue the redesign of the Main Transmission Gearbox from Magnesium to Aluminum.</p> <p><i>FY 2013 Base Plans:</i> Continue redesign work to reduce impact of cost and readiness drivers for the T700 engine. Complete a Fleet Leader of the Automatic Wire Analyzer at Naval Air Station North Island to train operators, develop procedures,</p>					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy			DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 1355: <i>Propulsion and Power Component Improvement Program</i>				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)						
		FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
and measure effectiveness. Complete the redesign of the Main Transmission Gearbox from Magnesium to Aluminum.						
Title: H-1 (T400/T700)		0.352	1.084	1.792	-	1.792
Articles:		0	0	0		0
FY 2011 Accomplishments: Provided Build Process Efficiencies for increased reliability and cost reduction. Addressed T400 parts obsolescence.						
FY 2012 Plans: Begin development of T700-401 engine harness testor. Complete LiPoly battery for H-1 upgrades. Continue support of common T700 engine projects.						
FY 2013 Base Plans: Complete development of T700-401 engine harness testor. Continue support of common T700 engine projects.						
Title: AV-8B (F402)		6.663	4.200	5.241	-	5.241
Articles:		0	0	0		0
FY 2011 Accomplishments: Engineering Change Proposals (ECPs) submitted for Engine Variable Inlet Control System (EVICS) torque motor roll cage redesign. ECPs submitted for Low Pressure Compressor 1, Low Pressure Compressor 2, Low Pressure Compressor 3 and blade airfoil Low Plasticity Burnishing. Detailed design effort to extend critical rotating part lives.						
FY 2012 Plans: ECPs for low plasticity burnishing of low pressure compressor stage one, two and three blades, fuel leak redesign of EVICS, Hydro Mechanical Unit (HMU) permanent magnet alternator, fuel manifold pipe leakage redesign, meandering wire magnetometer inspection technique for low pressure compressor stage one blade dovetails.						
FY 2013 Base Plans: Complete effort for low plasticity burnishing of low pressure compressor stage one, two and three blades. Complete fuel leak redesign of EVICS, HMU permanent magnet alternator, fuel manifold pipe leakage redesign, meandering wire magnetometer inspection technique for low pressure compressor stage one blade dovetails.						
Title: H-53/H-46/H-3 (T58/T64)		5.640	6.090	9.427	-	9.427

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy			DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 1355: <i>Propulsion and Power Component Improvement Program</i>				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)						
		FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
	Articles:	0	0	0		0
<i>FY 2011 Accomplishments:</i>						
H-46/H-3 (T58) Continued qualification of Next Generation Coating for 1st stage compressor blades.						
H-53 (T64) Mid sump improvements and modernized torque sensor effort continued. Fuel control reliability improvement program initiated. Life management analysis and Reliability Centered Maintenance efforts continued.						
<i>FY 2012 Plans:</i>						
H-46/H-3 (T58) Complete qualification of Next Generation Coating for 1st stage compressor blades.						
H-53 (T64) Complete mid sump improvements and modernized torque sensor effort continue. Continue Fuel control reliability improvement program. Continue life management analysis and Reliability Centered Maintenance efforts.						
<i>FY 2013 Base Plans:</i>						
H-46/H-3 (T58) Continue to develop inspection and repair criteria for fielded components.						
H-53 (T64) Complete modernized torque sensor effort. Complete Fuel control reliability improvement program. Continue life management program, Prognostic Diagnostic based management analysis and Reliability Centered Maintenance efforts.						
Title: F-18 C/D/E/F (F414/F404)		10.629	18.020	16.589	-	16.589
	Articles:	0	0	0		0
<i>FY 2011 Accomplishments:</i>						
Oil system improved to address pressure cautions. Component analyzed for service life extension. Full Authority Digital Electronic Control software modified for reduced removals for engine stalls.						
<i>FY 2012 Plans:</i>						
Flameholder attachment redesign. Full Authority Digital Electronic Control obsolescence redesign. Turbine disk dovetail edge of contact improvements. Near real time damage assessment. Field performance management.						

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy				DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>		PROJECT 1355: <i>Propulsion and Power Component Improvement Program</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					
High Pressure Compressor throat wear limit expansion. Oil pressure cautions. Main Fuel Control improvements to reduce mission aborts.					
FY 2013 Base Plans: Complete flameholder attachment redesign. Complete Full Authority Digital Electronic Control obsolescence redesign. Complete turbine disk dovetail edge of contact improvements. Complete Main Fuel Control improvements to reduce mission aborts. Begin mission analysis updates. Continue to develop lifting model. Continue life limited part life extension. Continue to develop inspection and repair criteria.					
Title: T-45 (F405)					
Articles:					
	2.198 0	2.000 0	4.714 0	-	4.714 0
FY 2011 Accomplishments: Addressed top safety issues reported from fleet. Analyzed and redesigned components based on service revealed deficiencies.					
FY 2012 Plans: Continue to address safety issues reported from fleet. Analysis and redesign components based on service revealed deficiencies.					
FY 2013 Base Plans: Complete to address safety issues reported from fleet. Analysis and redesign components based on service revealed deficiencies.					
Title: V-22 Propulsion					
Articles:					
	-	6.600 0	-	-	-
FY 2012 Plans: Initiate Drive system corrosion improvement project, drive system lead the fleet, Full Authority Digital Engine Control Troubleshooting, constant frequency generator to Accessory gearbox casting change. Continue Infrared suppressor removal study, software generation, upper Nacelle system and compressor coating Trade Studies. Complete engine and system management plans.					
Title: Multi-Platform Product Support Teams					
Articles:					
	11.084 0	12.685 0	7.849 0	-	7.849 0
FY 2011 Accomplishments:					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 1355: <i>Propulsion and Power Component Improvement Program</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<p>Projects provided common support to multiple platforms in the areas of improved drive systems, secondary power and mechanical systems; improved tools for performance analysis, modeling and simulation, diagnostics, engine reliability assessment, and structural integrity; improve products and processes for fuels, lubricants and refueling equipment; and improve electrical system product support, wiring, and battery systems. Includes funding for Government Furnished Equipment fuel provided in support of engine developmental and qualification testing.</p> <p>FY 2012 Plans: Continue projects to provide common support to multiple platforms in the areas of improved drive systems, secondary power and mechanical systems; improved tools for performance analysis, modeling and simulation, diagnostics, engine reliability assessment, and structural integrity; improve products and processes for fuels, lubricants, and refueling equipment; and improve electrical system product support, wiring, and battery systems. Includes funding for Government Furnished Equipment fuel provided in support of engine developmental and qualification testing.</p> <p>FY 2013 Base Plans: Continue projects to provide common support to multiple platforms in the areas of improved drive systems, secondary power and mechanical systems; improved tools for performance analysis, modeling and simulation, diagnostics, engine reliability assessment, and structural integrity; improve products and processes for fuels, lubricants, and refueling equipment; and improve electrical system product support, wiring, and battery systems. Includes funding for Government Furnished Equipment fuel provided in support of engine developmental and qualification testing.</p>					
<p>Title: Adversary (J85) (F100)</p> <p align="right">Articles:</p> <p>FY 2013 Base Plans: Continue contribution to common Component Improvement Program tasks with United States Air Force for F100 and J85 Engine. J85 unique tasks include rotating part life update and fuel control redesign.</p>	-	-	0.787 0	-	0.787 0
Accomplishments/Planned Programs Subtotals	50.161	62.379	61.296	-	61.296

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

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 1355: <i>Propulsion and Power Component Improvement Program</i>

D. Acquisition Strategy

This is a NON-ACAT program. Procurement strategy is determined by market survey and cooperative opportunities.

E. Performance Metrics

The Component Improvement Program (CIP) will support engineering design and development efforts for 100% of the safety of flight issues on in-service propulsion & power systems covered under the program. In FY11, this equates to more than 200 individual Engineering Project Descriptions (EPDs). CIP will also address reliability and maintainability deficiencies equating to at least another 150 individual EPDs. Similar projects have increased the aggregate engine reliability across the USN/USMC fleet, as measured by the mean flight hours between engine removals, by 40% over the past six years.

Program execution will be actively managed on 100% of the projects via contractor earned value data and overall obligation and expenditure rates as reflected in Navy ERP. Data will be analyzed and measured against OSD/FMB benchmarks on a monthly basis.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 1355: <i>Propulsion and Power Component Improvement Program</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 F402 Engine Program	WR	NAWCAD:PAX RIVER, MD	10.916	1.302	Oct 2011	2.096	Oct 2012	-		2.096	Continuing	Continuing	Continuing
Sys Eng F402 Engine Program	SS/CPFF	ROLLS ROYCE:UK	55.856	2.898	Dec 2011	3.145	Jan 2013	-		3.145	0.000	61.899	61.899
Sys Eng T58/T64 Engine Program	SS/CPFF	GE:MASS	74.481	3.532	Dec 2011	5.656	Jan 2013	-		5.656	0.000	83.669	83.669
Sys Eng T58/T64 Engine Program	WR	NAWCAD:PAX RIVER, MD	24.495	2.558	Oct 2011	3.771	Oct 2012	-		3.771	Continuing	Continuing	Continuing
Sys Eng J52 Engine Program	SS/CPFF	P&W:FLORIDA	37.968	1.073	Oct 2011	1.454	Jan 2013	-		1.454	0.000	40.495	40.495
Sys Eng J52 Engine Program	WR	NAWCAD:PAX RIVER, MD	11.312	0.547	Oct 2011	0.969	Oct 2012	-		0.969	Continuing	Continuing	Continuing
Sys Eng T56 Engine Program	SS/CPFF	ROLLS ROYCE:IN	35.311	4.194	Feb 2012	5.042	Jan 2013	-		5.042	0.000	44.547	44.547
Sys Eng T56 Engine Program	WR	NAWCAD:PAX RIVER, MD	24.360	1.796	Oct 2011	3.361	Oct 2012	-		3.361	Continuing	Continuing	Continuing
Sys Eng F405 Engine Program	SS/CPFF	ROLLS ROYCE:UK	25.813	1.166	Dec 2011	2.828	Jan 2013	-		2.828	0.000	29.807	29.807
Sys Eng F405 Engine Program	WR	NAWCAD:PAX RIVER, MD	2.722	0.834	Oct 2011	1.886	Oct 2012	-		1.886	Continuing	Continuing	Continuing
Sys Eng F414/F404 Engine Program	SS/CPFF	GE:MASS	89.758	12.684	Dec 2011	9.965	Jan 2013	-		9.965	0.000	112.407	112.407
Sys Eng F414/F404 Engine Program	WR	NAWCAD:PAX RIVER, MD	13.968	5.336	Oct 2011	6.648	Oct 2012	-		6.648	Continuing	Continuing	Continuing
Sys Eng T700 Engine Program	SS/CPFF	GE:MASS	24.999	1.849	Jan 2012	1.543	Jan 2013	-		1.543	0.000	28.391	28.391
Sys Eng T700 Engine Program	WR	NAWCAD:PAX RIVER, MD	10.540	0.791	Oct 2011	1.028	Oct 2012	-		1.028	Continuing	Continuing	Continuing
Sys Eng T400 Engine Program	SS/CPFF	P&W:FLORIDA	5.210	0.200	Dec 2011	1.075	Jan 2013	-		1.075	0.000	6.485	6.485
Sys Eng T400	WR	NAWCAD:PAX RIVER, MD	-	0.884	Dec 2011	0.717	Oct 2012	-		0.717	Continuing	Continuing	Continuing
Sys Eng Props Program	SS/CPFF	HAM SUNSTRAND:CON	13.739	1.450	Dec 2011	1.500	Jan 2013	-		1.500	0.000	16.689	16.689

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 1355: <i>Propulsion and Power Component Improvement Program</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 Lab Fld Activity-1.0 or more	WR	NAWCAD:PAX RIVER, MD	185.951	10.965	Oct 2011	7.006	Oct 2012	-		7.006	Continuing	Continuing	Continuing
GFE*	Reqn	DES/DLA:Various	10.913	1.000	Dec 2011	0.200	Jan 2013	-		0.200	Continuing	Continuing	Continuing
Sys Eng V-22 Propulsion Program	SS/FFP	Bell- Boeing:Ft. Worth, TX	3.400	4.500	Jan 2012	-		-		-	0.000	7.900	7.900
Sys Eng V-22 Propulsion Program	WR	NAWCAD:PAX RIVER, MD	1.800	2.100	Nov 2011	-		-		-	0.000	3.900	
Sys Eng Other In-House Spt	Various	Various:Various	19.517	0.300	Oct 2011	0.200	Nov 2012	-		0.200	Continuing	Continuing	Continuing
Adversary (J85) (F100)	WR	NAWCAD:PAX RIVER, MD	-	-		0.787	Jan 2013	-		0.787	0.000	0.787	
Prior Year Prod Dev	Various	Various:Various	53.921	-		-		-		-	0.000	53.921	
Subtotal			736.950	61.959		60.877		-		60.877			

Remarks
 GFE includes expected cost of fuel necessary to support engine development and qualification testing.
 This budget submittal realigns JSF CIP funds to Multi-Platform Support and V-22 based on resource sponsor direction and in concert with program schedule adjustment.
 Total may be off due to rounding.

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	7.623	0.310	Dec 2011	0.310	Oct 2012	-		0.310	Continuing	Continuing	Continuing
Subtotal			7.623	0.310		0.310		-		0.310			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	3.279	0.053	Oct 2011	0.053	Oct 2012	-		0.053	Continuing	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 2269: <i>EAF Matting</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2269: <i>EAF Matting</i>	-	4.705	13.077	-	13.077	12.878	11.098	-	-	0.000	41.758
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Expeditionary Airfields (EAF) program is a FY2012 New Start. It was previously budgeted for under PE 0205633N project 0601. The EAF program designs, develops, tests and fields components of a heat resistant lightweight airfield surfacing system and resistant that will support the deployment of the Joint Strike Fighter in austere environments worldwide and a sustainment lighting system to replace existing obsolete legacy EAF lighting system. These systems will provide EAF Marine Wing Support Squadrons with the required EAF equipments to install Forward Operating Bases and Forward Arming and Refueling Points. With the deployment of this equipment the Marine Wing Support Squadron can support all USMC aircraft allowing the Combatant Commanders the flexibility to deploy Aircraft Combat Elements to meet anticipated threats.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: EAF Matting	-	4.705	13.077	-	13.077
Articles:		0	0		0
Description: The EAF program designs, develops, tests and fields components of a heat resistant lightweight airfield surfacing system that will support the deployment of the Joint Strike Fighter in austere environments worldwide and a sustainment lighting system to replace the existing obsolete legacy EAF lighting system. These systems will provide EAF Marine Wing Support Squadrons with the required EAF equipments to install Forward Operating Bases and Forward Arming and Refueling Points. With the deployment of this equipment the Marine Wing Support Squadron can support all USMC aircraft allowing the Combatant Commanders the flexibility to deploy Aircraft Combat Elements to meet anticipated threats.					
The EAF program was previously budgeted for in PE 0205633N project 0601.					
FY 2012 Plans: Design and development of heat resistant/lightweight matting and sustainment lighting to support preliminary design reviews and critical design reviews.					
FY 2013 Base Plans: Continue design and development of heat resistant/lightweight matting and sustainment lighting to support preliminary design reviews and critical design reviews.					
Accomplishments/Planned Programs Subtotals	-	4.705	13.077	-	13.077

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 2269: <i>EAF Matting</i>

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

<u>Line Item</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>FY 2017</u>	<u>Cost To</u>	
			<u>Base</u>	<u>OCO</u>	<u>Total</u>					<u>Complete</u>	<u>Total Cost</u>
• 0204161N/4208: <i>Expeditionary Airfields.</i>	12.983	55.561	8.678	58.200	66.878	8.821	8.984	9.138	9.297	Continuing	Continuing

D. Acquisition Strategy

Expeditionary Airfields (EAF): The program will use a Full and Open competition contract strategy for the system design and development of the EAF matting and sustainment lighting.

E. Performance Metrics

Milestone Reviews

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 2269: <i>EAF Matting</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	TBD:TBD	-	1.505	Apr 2012	7.410	Apr 2013	-		7.410	7.340	16.255	16.255
Systems Engineering	WR	NAWCAD:Lakehurst	-	1.960	Oct 2011	2.156	Oct 2012	-		2.156	7.275	11.391	
Subtotal			-	3.465		9.566		-		9.566	14.615	27.646	

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	WR	NAWCAD:Lakehurst	-	0.700	Oct 2011	1.000	Oct 2012	-		1.000	1.770	3.470	
Technical/Engr support	WR	NAWCAD:Lakehurst	-	0.540	Oct 2011	2.071	Oct 2012	-		2.071	5.751	8.362	
Subtotal			-	1.240		3.071		-		3.071	7.521	11.832	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	NAWCAD:Lakehurst	-	-		0.440	Oct 2012	-		0.440	1.840	2.280	
Subtotal			-	-		0.440		-		0.440	1.840	2.280	

			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	4.705		13.077		-		13.077	23.976	41.758	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 2269: <i>EAF Matting</i>
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Proj 2269	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017				
	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																													
System Design and Development								EAF-SYSTEM DESIGN & DEVELOPMENT																					
Reviews																													
Test and Evaluation																													
Formal Testing																													
Production Milestones																													
Contract Awards																													
Deliveries																													

2013PB - 0205633N - 2269

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 2269: <i>EAF Matting</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2269				
Systems Development: System Design and Development: EAF-SYSTEM DESIGN & DEVELOPMENT (SDD)	3	2012	1	2015
Systems Development: Reviews: EAF PROGRAM DESIGN REVIEW	3	2013	3	2013
Systems Development: Reviews: EAF-CRITICAL DESIGN REVIEW	2	2014	2	2014
Test and Evaluation: Formal Testing: EAF-FORMAL TESTING	2	2014	4	2015

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 3189: <i>Digital I-TER</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
3189: <i>Digital I-TER</i>	-	0.001	-	-	-	-	-	-	-	0.000	0.001
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

This project develops an increased capability to the existing BRU-42 Improved Triple Ejector Rack (ITER) for the AV-8B, which adds a multiple carriage capability for Smart Weapons such as Joint Direct Attack Munition. Using existing ITERs as Government Furnished Material, the electronics tray will be replaced with a more capable electronics package allowing for smart weapons capability.

FY09 and FY10 funds realigned to PE 0604214N, Project Unit 2634. These funds were realigned to meet the appropriate intent and strategy of upgrading the AV-8B software to ensure the aircraft receives an increased capability while utilizing an upgraded BRU-42 ITER.

FY10 funds realigned within PE 0604214N, Project Unit 3190 to 3189 to cover extended POP and minor redesign to address integration platform software limitations.

There are no funded efforts planned in FY12 for Digital I-TER.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Digital I-TER	-	0.001	-	-	-
Articles:		0			
FY 2012 Plans: There are no efforts planned in FY12 for Digital I-TER.					
Accomplishments/Planned Programs Subtotals	-	0.001	-	-	-

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

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 3190: <i>Multi-Purpose Bomb Racks</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
3190: <i>Multi-Purpose Bomb Racks</i>	3.871	-	-	-	-	-	-	-	-	0.000	3.871
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

The Navy canceled the Multi-Purpose Bomb Rack (MPBR) program in April 2011. Budget exhibits reflect cancellation.

A. Mission Description and Budget Item Justification

3190- MPBR: The MPBR was to replace the BRU-41 / 42 / 33 / 55 for the F/A-18E/F platform and provide for the carriage and release of both tactical and training stores on one common rack. In April 2011, the decision to cancel the MPBR Program was made based upon the Navy's holistic analysis of current bomb rack systems and budgetary concerns versus the program's return on investment.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<p>Title: MPBR Dev</p> <p align="right">Articles:</p> <p>Description: The MPBR funding started the development of a bomb rack to replace the BRU-41 / 42 / 33 / 55 for the F/A-18E/F.</p> <p>FY 2011 Accomplishments: Began MPBR prototype development and fabrication.</p>	3.271 0	-	-	-	-
<p>Title: MPBR Testing</p> <p align="right">Articles:</p> <p>Description: The MPBR testing will include ground (aircraft and test stand) and flight integration testing. These efforts will begin prior to delivery and will occur throughout the Engineering and Manufacturing Development efforts of this rack.</p> <p>FY 2011 Accomplishments: Performed MPBR initial test planning for ground rack testing. Began close out of contract efforts.</p>	0.600 0	-	-	-	-
Accomplishments/Planned Programs Subtotals	3.871	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205633N: <i>Aviation Improvements</i>	PROJECT 3190: <i>Multi-Purpose Bomb Racks</i>
C. Other Program Funding Summary (\$ in Millions) N/A		
D. Acquisition Strategy The Multi-Purpose Bomb Rack program EMD contract was awarded in March 2010. Subsequently, the unsuccessful vendor lodged a protest which placed the contract in a stop work status. The decision to continue with award occurred on 23 September 2010. MPBR was canceled in April 2011 due to higher priorities within the Navy. A stop work was issued on 25 April 2011, with Systems Requirements Review (SRR) being the final technical event and then to begin contract shutdown process.		
E. Performance Metrics FY11: Successfully complete milestones: SRR.		

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				PE 0205658N: <i>Navy Science Assistance Progr</i>							
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	3.503	1.957	3.450	-	3.450	3.504	3.531	3.596	3.669	Continuing	Continuing
0834: <i>LAB Fit Support</i>	3.503	1.957	3.450	-	3.450	3.504	3.531	3.596	3.669	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Naval Science Advisor Program ensures the Fleet/Force (F/F) helps shape the Department of the Navy (DoN) investment in Science and Technology (S&T), develops teaming relationships to rapidly demonstrate and transition technology, supports development of technology-based capability options for naval forces, and enables warfighting innovations based on technical and conceptual possibilities. This is accomplished through proactive connectivity and collaboration between DoN S&T and Joint, Navy, and Marine Corps commands worldwide. The program accomplishes this through several methods. It provides Science Advisors to Joint, Navy, and Marine Corps operational and strategic planning commands. Science Advisors facilitate and disseminate Joint Capabilities Integration and Development System (JCIDS) requirements provided by the F/F Commanders to the Director of Navy Test and Evaluation and Technology Requirements (OPNAV N091). Science Advisors collaborate with the F/F to identify specific solutions to known operational capability needs and provide the means to develop and demonstrate prototype systems. As a result, Science Advisors provide insight into issues associated with Naval Warfighting Capabilities that influence S&T program decision making. The program develops leaders among civilian scientists and engineers in the Naval Research Enterprise (NRE). Upon completion of their tours, Science Advisors return to the NRE with first hand knowledge of the F/F, warfighting issues, and strategic decision making. The Office of Naval Research (ONR) Science Advisor program enables continuous communication and collaboration between the warfighters, the technical community, and strategic development commands.

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	3.535	1.957	3.478	-	3.478
Current President's Budget	3.503	1.957	3.450	-	3.450
Total Adjustments	-0.032	-	-0.028	-	-0.028
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.014	-			
• Program Adjustments	-	-	-0.021	-	-0.021
• Rate/Misc Adjustments	-	-	-0.007	-	-0.007
• Congressional General Reductions Adjustments	-0.018	-	-	-	-

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205658N: <i>Navy Science Assistance Progr</i>
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Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205658N: <i>Navy Science Assistance Progr</i>	PROJECT 0834: <i>LAB Fit Support</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
0834: <i>LAB Fit Support</i>	3.503	1.957	3.450	-	3.450	3.504	3.531	3.596	3.669	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 Science Advisor Program ensures the F/F helps shape the DoN investment in S&T, develops teaming relationships to rapidly demonstrate and transition technology, supports development of technology-based capability options for naval forces, and enables warfighting innovations based on technical and conceptual possibilities. This is accomplished through proactive connectivity and collaboration between DoN S&T and Joint, Navy, and Marine Corps commands worldwide. The program accomplishes this through several methods. It provides Science Advisors to Joint, Navy, and Marine Corps operational and strategic planning commands. Science Advisors facilitate and disseminate JCIDS requirements provided by the F/F Commanders to the OPNAV N091. Science Advisors collaborate with the F/F to identify specific solutions to known operational capability needs and provide the means to develop and demonstrate prototype systems. As a result, Science Advisors provide insight into issues associated with Naval Warfighting Capabilities that influence S&T program decision making. The program develops leaders among civilian scientists and engineers in the NRE. Upon completion of their tours, Science Advisors return to the NRE with firsthand knowledge of the F/F, warfighting issues, and strategic decision making. The Office of Naval Research (ONR) Science Advisor program enables continuous communication and collaboration between the warfighters, the technical community, and strategic development commands.

FY12 decrease (-\$1.5M) results from one year (FY12 only) decrease to respond to POM-12 DPPG S&T fiscal guidance.

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

	FY 2011	FY 2012	FY 2013
Title: NAVAL SCIENCE ADVISOR PROGRAM	3.503	1.957	3.450
Articles:	0	0	0
FY 2011 Accomplishments:			
The Science Advisors (SA) are a conduit between the Fleet Forces, Office of Naval Research (ONR) and the Naval Research Establishments (NRE). Specific Fleet:			
SA, Navy Warfare Development Command (NWDC), provided technical support for the generation and development of advanced warfighting concepts leading to innovative new strategies to address Navy challenges and opportunities.			
SA, Commander Seventh Fleet (C7F), engaged with the NREs as follows: briefed senior level audiences, participated in discussions on relevant technology and Science and Technology (S&T) gaps in the areas of Information Operations (IO), Electronic Warfare, Computer Network Operations, Information Analysis & Communications, Survivability & Self Defense, Strike, and Anti-Submarine Warfare in the context of the Navy's 13 S&T Focus Areas and Sea Power 21 Pillars.			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0205658N: <i>Navy Science Assistance Progr</i>		PROJECT 0834: <i>LAB Fit Support</i>
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)				FY 2011
<p>SA, Commander US Naval Forces Central Command (C5F), provided leadership and guidance towards identification and response of C5F warfighting capability gaps based on threats having a critical impact on major campaign operations and combat readiness in the CENTCOM Area of Responsibility (AOR).</p> <p>SA, Commander US Fleet Forces Command (USFFC), facilitated integration and articulation of fleet warfighter and readiness requirements influencing Naval and DoD RDT&E resourcing as follows: Led team from Operational Fleets, Force Providers and Naval Component Commands in articulation of fleet requirements to S&T community.</p> <p>SA, Commander Submarine Forces (CSF), established a team based structure to advance Undersea Enterprise (USE) S&T needs to achieve warfighting capabilities through the USE Chief Technology Officer (CTO), OPNAV N87, and the NREs. Evaluated, refined, and supported FY-13 Future Naval Capabilities (FNC) proposals in conjunction with ONR program officers, four Enabling Capability (EC)s were approved for new start: Towed Array Reliability Improvement, ASW Fusion for Remote sensors, Alternate Anti-Surface Warfare Torpedo Homing and Target Discrimination, and Simulation Toolset for Analysis of Mission, Personnel, and Systems.</p> <p>SA, Commander Naval Surface Forces (SURFOR), provided continuous engagement with ONR, fellow SAs, and Fleet and Systems Command senior leaders in the creation, modification, and promulgation of Total Ownership Cost, Anti-Surface Warfare (ASW) and Integrated Air and Missile Defense (IAMD) gaps used as the basis for the development of FNC EC products.</p> <p>SA, Commander Third Fleet (C3F), led the demonstration planning efforts for an Information Operations Technology Demonstration that was tasked by the CNO. Also, completed a survey of game changing or disruptive S&T efforts throughout the NRE. As a result of the survey, developed a Future Capabilities Needs List, which details desired areas of future S&T investment. This IO demonstration will commence again this year to improve on what we learned last year and implement new technologies and tactics.</p> <p>SA, US Naval Forces Europe/Africa, (C6F), managed the deployment of the Computer Aided Maritime Threat Evaluation System, a rules based information technology to aid C6F in assessing the risk of commercial shipping within the AOR. Codified an enduring technical exchange with the NATO Undersea Research Center (NURC) under a memorandum of agreement to facilitate greater interoperability and the transition of NURC technologies into Naval Forces Europe/Africa, C6F exercises and operations.</p> <p>SA, Commanding General 1st Marine Expeditionary Force and Marine Forces Central Command (CG I MEF/MARCENT), supported deployed force requirements definition and innovation insertion into Iraq and Afghanistan.</p>				FY 2012
				FY 2013

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205658N: <i>Navy Science Assistance Progr</i>	PROJECT 0834: <i>LAB Fit Support</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2011	FY 2012	FY 2013
<p>SA, CNO Strategic Studies Group (SSG), fully partnered in the generation of revolutionary warfighting concepts for the Navy of the future. Along with the Technology Fellows, the SA developed the SSG Fall Program which included: Researched and invited lecturers to address the SSG, developed an engaging and mind opening Exploration Travel for the CNO Fellows and Mini Exploration Travel for all SSG members.</p> <p>SA, Commander, US Marine Corps Forces Command (MARFORCOM), continued a cohesive and close teaming relationship with ONR Global SA at I MEF, II MEF, III MEF, and Marine Forces Pacific (MARFORPAC) that coordinated United States Marine Corps (USMC) operating force's voice on S&T matters.</p> <p>SA, Commander, Naval Air Forces (NAVAIRFOR), continued the development and installation efforts of the North Atlantic Treaty Organization (NATO) Sea Sparrow Missile, Electro-Optical/Infrared (EO/IR) upgrade on 2 Aircraft Carriers (CVNs), USS George H.W. Bush (CVN-77) and USS George Washington (CVN 73), and one Amphibious Assault Vessel, USS Bataan (LHD-5), for detection and identification of small boat threats to aircraft carrier strike groups.</p> <p>SA, III Marine Expeditionary Force (III MEF), worked with other USMC SAs to establish a new Operational Advisory Group (OAG) for the Marine Corps in Operational Science Technology and Experimentation (OSTE). Designed and proposed a new Science and Technology Review Committee (STC) at III MEF that will be used to inform the new OSTE OAG of MEF requirements and provide oversight, guidance and ownership of S&T work at III MEF in Okinawa, Japan.</p> <p>SA, CNO Executive Panel (CEP), as a member of CNO's personal staff, provided support to the CEP as an action officer for CEP subcommittee meetings, plenary sessions and intelligence briefings. Performed as Principal Staff representative for two CEP subcommittees; (1) Resource Sponsorship, and (2) Technical Diversity.</p> <p>SA, Commanding General II Marine Expeditionary Force (II MEF), provided support to the standup and deployment of II MEF FWD, briefing the Operations Officers and S&T Officers on emerging technology capabilities to be encountered in Afghanistan during II MEF FWD rotation.</p> <p>SA, Commander, USMC, Pacific (MARFORPAC), focused on addressing operational and strategic needs with technology by engaging with the joint S&T community both within the Pacific and across DoD. Proposed, secured funding, and started installation of Micro Auto Gasification System (MAGS), a small scale in-situ waste management system for tactical and garrison environments.</p> <p>SA, Commander Pacific Fleet (PACFLT), improved capabilities across the Pacific AOR through rapid technology pull in various mission areas including Maritime Security Operations, ASW and Counter-Intelligence Surveillance Reconnaissance. Engaged</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205658N: <i>Navy Science Assistance Progr</i>	PROJECT 0834: <i>LAB Fit Support</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2011	FY 2012	FY 2013
<p>S&T, Acquisition, Industry, University, Other Government Agencies and Coalition Partners to emphasize our warfighting gaps and identify possible long-term solutions and collaborative efforts.</p> <p>SA, Naval Supply Systems Command (NAVSUP), is the Research and Development (R&D) manager, technology requirement and technology facilitator and Naval Research Enterprise conduit for NAVSUP. Worked with the NAVSUP Enterprise and logistics R&D Working Group and Executive Steering Group (ESG) to generate NAVSUP's annual list of capability gaps from the current NAVSUP Commander's Guidance, which helps direct R&D investments at NAVSUP.</p> <p>SA, US Pacific Command (USPACOM), developed a Command-wide S&T strategy to address operational shortfalls and synchronize S&T engagement with the USPACOM Theater Campaign Plan. Established and executed multi-phase action plan to inform Service RDT&E enterprise of Command war fighting shortfalls and identify candidate mitigation capabilities via USPACOM S&T Integrated Priority List.</p> <p>SA, Chief of Naval Operations Code N81 (OPNAV N81), focused on disseminating the Navy's warfighting capability/risk analysis products to the broader S&T community resulting in an improved influence of requirements pull on S&T. The N81 SA was part of the ONR internal strategy cell membership for the updated Navy S&T Strategic Plan.</p> <p>SA, Commander Submarine Forces Pacific Fleet (SUBPAC), continued to expand the capabilities of the Unmanned Aerial System (UAS, aka SOTHOC, Submarine Over-The-Horizon Organic Capability). A successful tactical development exercise with the UAS occurred in the summer of 2010, followed by a second development exercise to evaluate counter detection. These exercises used UAS for over-the-horizon targeting of High-Valued Units in a multi-ship formation.</p> <p>SA, Naval Mine and Anti-Submarine Warfare Command (NMAWC), Commander NMAWC is the lead for the FNC ASW sub-IPT. The SA is directly responsible to the Commander for drafting/modifying capability gaps and EC ideas, vetting them through the sub IPT members, incorporating modifications, and providing the final recommendation to the Commander for presentation to the Sea Shield IPT.</p> <p>SA, OPNAV N2/N6 advised the Deputy CNO for Information Dominance (DCNO N2N6), advised Flag and SES Leadership on Navy S&T programs that addressed information dominance; member of FNC Technical Oversight Group (TOG) Working Group which prioritized and selected fifteen ECs products that addressed nine FNC Pillars (i.e. FORCEnet, Sea Strike, Shield, and Basing); member of the FORCEnet Integrated Product Team (IPT), Rapid Technology Transition (RTT) Team, and Joint Concept Technology Demonstration (JCTD) Team that reviewed technology programs to the fleet.</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205658N: <i>Navy Science Assistance Progr</i>	PROJECT 0834: <i>LAB Fit Support</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
SA, Commander, Navy Expeditionary Combat Command (NECC), updated the NECC S&T Strategy Plan as the warfighters demand signal to the Navy Expeditionary Combat Enterprise (NECE). Conducted technical demonstrations and the Operational Demonstration of the Riverine and Intercoastal Operations (RIO) JCTD unattended sensor system.			
SA, Commander, C10F, C10F, Serve as the senior representative/liaison in all interactions with S&T oriented government, military, academia, and industry organizations. Function as the "FORCEnet" Operational Agent S&T representative, Naval Space Operations S&T representative and Service Cryptologic Component Command S&T representative in the signals intelligence community.			
SA, Commander Second Fleet (C2F), led the planning efforts for two Sea Trial sponsored events. Coordinated the MK 38 Laser Weapons System initiative which demonstrates the capabilities of a ship based directed energy weapon system for self-defense against small watercraft, UAS and other threats.			
<i>FY 2012 Plans:</i> Continue all efforts of FY 2011.			
<i>FY 2013 Plans:</i> Continue all efforts of FY 2012.			
Accomplishments/Planned Programs Subtotals	3.503	1.957	3.450

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

D. Acquisition Strategy
Not Applicable.

E. Performance Metrics
Goal: Provide leadership with timely S&T advice on issues.

Metric: Monthly reports by Science Advisors to the Office of Naval Research and senior leadership within their assigned commands.

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205658N: <i>Navy Science Assistance Progr</i>	PROJECT 0834: <i>LAB Fit Support</i>

	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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 0834																												
Naval Science Advisor Program																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205658N: <i>Navy Science Assistance Progr</i>	PROJECT 0834: <i>LAB Fit Support</i>
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Proj 0834</i>				
Naval Science Advisor Program	1	2011	4	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205675N: <i>Operational Nuclear Power Sys</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	73.851	82.705	86.435	-	86.435	111.653	100.940	96.421	101.695	Continuing	Continuing
1303: <i>Operational Nuclear Power System</i>	73.851	82.705	86.435	-	86.435	111.653	100.940	96.421	101.695	Continuing	Continuing

A. Mission Description and Budget Item Justification

The details of this program element are classified CONFIDENTIAL and are submitted annually to Congress in the classified budget justification books.

B. Program Change Summary (\$ in Millions)

	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013 Base</u>	<u>FY 2013 OCO</u>	<u>FY 2013 Total</u>
Previous President's Budget	74.229	82.705	86.291	-	86.291
Current President's Budget	73.851	82.705	86.435	-	86.435
Total Adjustments	-0.378	-	0.144	-	0.144
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	-	-	0.154	-	0.154
• Rate/Misc Adjustments	-	-	-0.010	-	-0.010
• Congressional General Reductions Adjustments	-0.378	-	-	-	-

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0205675N: <i>Operational Nuclear Power Sys</i>	PROJECT 1303: <i>Operational Nuclear Power System</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
1303: <i>Operational Nuclear Power System</i>	73.851	82.705	86.435	-	86.435	111.653	100.940	96.421	101.695	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The details of this program element are classified CONFIDENTIAL and are submitted annually to Congress in the classified budget justification books.

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

	FY 2011	FY 2012	FY 2013
Title: Operational Nuclear Power System	73.851	82.705	86.435
Articles:	0	0	0
Description: N/A			
FY 2011 Accomplishments: N/A			
FY 2012 Plans: N/A			
FY 2013 Plans: N/A			
Accomplishments/Planned Programs Subtotals	73.851	82.705	86.435

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

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	227.604	321.623	219.054	-	219.054	200.011	162.411	97.813	99.090	Continuing	Continuing
2270: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>	24.739	23.810	21.119	-	21.119	33.665	28.277	27.039	24.813	Continuing	Continuing
2273: <i>Air Ops Cmd & Control (C2) Sys</i>	52.100	67.387	94.071	-	94.071	63.755	71.048	21.370	24.775	Continuing	Continuing
2274: <i>Command & Control Warfare Sys</i>	19.071	26.091	32.052	-	32.052	35.427	17.772	15.555	15.887	Continuing	Continuing
2275: <i>Joint Tactical Radio System</i>	1.850	4.964	4.413	-	4.413	25.309	9.817	3.901	6.066	Continuing	Continuing
2276: <i>Comms Switching and Control Sys</i>	4.106	3.979	8.327	-	8.327	10.336	9.295	7.759	5.103	Continuing	Continuing
2277: <i>System Engineering and Integration</i>	5.405	9.575	6.171	-	6.171	6.366	6.450	6.537	6.573	Continuing	Continuing
2278: <i>Air Defense Weapons System</i>	5.788	2.171	1.993	-	1.993	3.210	3.407	3.421	3.491	Continuing	Continuing
2510: <i>MAGTF CSSE & SE</i>	32.568	43.185	25.231	-	25.231	4.476	4.677	4.696	4.395	Continuing	Continuing
3099: <i>Radar System</i>	24.164	33.807	25.677	-	25.677	17.467	11.668	7.535	7.987	Continuing	Continuing
9C89: <i>Marine Ground-Air Radar</i>	57.813	106.654	-	-	-	-	-	-	-	0.000	164.467

A. Mission Description and Budget Item Justification

This program element provides funding to develop the command and control (C2) support and information infrastructures for the Fleet Marine Force and supporting establishment. Doctrinally, the C2 support system and the information infrastructure form two parts of a triad of capabilities which permits command and control systems to be transformed into a complete operating system. The third element of the triad is command and control organization and is not covered in this program element. USMC command and control is divided into seven functional areas and one supporting functional area as follows: intelligence C2, fire support C2, air operations C2, radio systems C2, combat service support C2, warfare C2, radar systems C2, and C2 support (information processing and communications).

Within this program element, subprojects have been grouped by C2 functional area for more efficient planning. Air defense weapons systems have been added to facilitate planning and a separate project is used for systems assigned to the supporting establishment. Subprojects which support the commander's decision processes have been collected into the Command Post Systems project since these systems must work in close cooperation to ensure effective C2 of Marine Air Ground Task Forces.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>
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B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	245.298	320.864	325.943	-	325.943
Current President's Budget	227.604	321.623	219.054	-	219.054
Total Adjustments	-17.694	0.759	-106.889	-	-106.889
• Congressional General Reductions	-	-0.741			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	1.879	-			
• SBIR/STTR Transfer	-5.389	-			
• Program Adjustments	-	1.500	-115.175	-	-115.175
• Rate/Misc Adjustments	-	-	8.286	-	8.286
• Congressional General Reductions Adjustments	-1.784	-	-	-	-
• Congressional Directed Reductions Adjustments	-12.400	-	-	-	-

Change Summary Explanation

FY13 RDT&E projects decreased \$28M to meet DoD cost saving goals while maintaining cost effective development schedules. Three FY 13 efforts increased as follows: the C2273 Common Aviation Command and Control System (CAC2S) increased \$32.8M for the air combat element (ACE) battle management and control capabilities; the C2274 Ground Based Operational Surveillance System (GBOSS) sensor package system increased \$1M; and, the C2276 Digital Technical Control switch network infrastructure increased \$4.2M.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>				PROJECT 2270: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2270: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>	24.739	23.810	21.119	-	21.119	33.665	28.277	27.039	24.813	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Advanced Field Artillery Tactical Data System (AFATDS) - The Advanced Field Artillery Tactical Data System (AFATDS) is an automated fire support command and control (C2) system consisting of fire support application software operating on common hardware platforms, which provides the MAGTF with the ability to rapidly integrate all supporting arms assets into maneuver plans via a digital data communications links. The AFATDS program includes AFATDS software and hardware, the Effects Management Tool (EMT) (a C2PC injector), the Back-up Computer System (BUCS), and the Battery Mobile Tactical Shelter (MTS).

Tactical Command Operations System (TCO) - TCO is the principle tool within the Marine Air Ground Task Force (MAGTF) for situational awareness through distribution of the Common Tactical Picture (CTP). It supports tactical operations providing information via high speed computer systems in a timely manner and includes the Intel Operations Workstations/Servers. R&D funds provide science and technology advanced concepts to be applied to the system for an increase in functional capabilities to the warfighter, to include JC2 development efforts within Tactical Service Oriented Architecture (TSOA).

Target Location Designation and Handoff System (TLDHS) - Provides the ability for Forward Observers (FOs) and Forward Air Controllers (FACs) to observe their area of interest, quickly and accurately locate ground targets, receive and display friendly unit information and Fire Support Coordination Measures (FSCMs) on map displays interfaced with C2PC. TLDHS can digitally request and provide digital terminal control for target engagements by field artillery (FA) through AFATDS, close air support (CAS) aircraft, and naval surface fire support (NSFS), and the machine-to-machine interface of the system reduces the potential for fratricide due to human error and by displaying friendly positions and target locations to the terminal controller.

Marine Air Ground Task Force (MAGTF) Command and Control (C2) Systems Applications - MAGTF C2 SA merges the development, integration and testing of 45 existing C2 systems and applications into one common enterprise capability. They reside in all Combat Operations Centers (COCs) and related USMC C2 platforms. This effort provides greater economies of scale/affordability with system developers, technical design agents, integration agents and individual program offices. MAGTF C2 SA efforts are in alignment with the combat developers requirements for: Net-Centric systems, Development of reusable Open Architecture components, Data exposure, Enhancing the war-fighter's Situational Awareness and Increasing/Maximizing the Commander's decision space.

Joint Battle Command - Platform (JBC-P) - will provide a single integrated Joint Blue Force Situational Awareness (JBFSA) capability solution for C2, Position Location Information (PLI), Mapping, Messaging, Overlays, and Routes, as required by Joint Requirements Oversight Council Memoranda 163-04, and 161-03. JBC-P will replace the BFT family of systems.

BFSA/Blue Force Tracker (BFT) - The BFT System is a commercial L-Band satellite-based Tracking and Communication System. USMC was directed to converge to the BFT Family of Systems (FoS) by Joint Requirements Oversight Council (JROC) Memorandum 163-04 direction based on OIF/OEF lessons learned. The BFT FoS

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2270: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>
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is comprised of the BFT, Mounted Refresh Computer (MRC) and Tactical Operations Center (TOC) Kit. BFT provides the near real time capability to identify vehicle/squad/rotary aircraft position, track progress, and communicate with other operators of these tactical "platforms" in OIF, OEF, other OCONUS operations and CONUS training for wartime deployment.

Identity Dominance System (IDS) - will provide a user friendly biometric authentication technology that will be employed to deny the enemy freedom of movement within the populace and positively identify known insurgents within an Area of Responsibility (AOR). It will enable Marine Corps and host-nation security personnel to detain, apprehend or deny entry to unwanted individuals in critical areas. The capability will enhance overall Force Protection and High-Value Target Identification by providing a means to rapidly ascertain whether or not a detained individual is wanted for criminal or terrorist activity, badge local workers and support post incident investigation by allowing collected evidence to be compared to available biometrics to identify likely suspects. Specifically, these items will enable enhanced perimeter security for high-visibility events such as national elections on foreign soil; high profile dignitary meetings between U.S. military officials and host nation political and military leaders; and U.S. military demonstrations. This capability will also enable enhanced prisoner management for the efficient administration of detainees, and improve Civil Action of DoD personnel by providing a means to track payments to host-nation workers and managed local labor who support/access facilities where military/Marines are located. Finally, this capability will enhance available intelligence by allowing "link analysis" on individuals to reveal criminal or terrorist associations not readily apparent when records are reviewed individually.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: *JBC-P: Software Development/Integration.	3.399	1.472	1.125	-	1.125
Articles:	0	0	0		0
FY 2011 Accomplishments:					
FY11 initiative focused mainly on systems engineering of the next increments of this spiral/incremental acquisition including requirements analysis, documentation review, integration with Marine Corps radios and participation in Army-led engineering efforts. Requirements identification/decomposition as well as funding a position in Huntsville, AL to serve as a liaison and integrated team member in the development of the JBC-P Core software. Federally Funded Research Center (FFRDC) software engineering support funded to provide appropriate government direction in design and development of software. Contract support funded to assist and serve as subject matter experts in this effort, as well as SPAWAR in later integration efforts.					
FY 2012 Plans:					
Personnel integrated into the software development team at the Software Engineering Directorate in Huntsville, AL in order to assist in the development and integration of the JBC-P capability. Federally Funded Research Center (FFRDC) software engineering support funded to provide appropriate government direction in design and development of software. Contract support funded to assist and serve as subject matter experts in this effort, as					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2270: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<p>well as SPAWAR in later integration efforts. Existing documentation and logistics support will be analyzed for supportability of JBC-P and follow on increments of the capability and if necessary, amended or re-written.</p> <p>FY 2013 Base Plans: Continue personnel integrated into the software development team at the Software Engineering Directorate in Huntsville, AL in order to assist in the development and integration of the JBC-P capability. Federally Funded Research Center (FFRDC) software engineering support funded to provide appropriate government direction in design and development of software. Contract support funded to assist and serve as subject matter experts in this effort, as well as SPAWAR in later integration efforts. Existing documentation and logistics support will be analyzed for supportability of JBC-P and follow on increments of the capability and if necessary, amended or re-written.</p>					
<p>Title: *JBC-P: Training Development.</p> <p align="right">Articles:</p> <p>FY 2011 Accomplishments: Held User juries and updated existing JCR training efforts in support of the evolution to JBC-P.</p> <p>FY 2012 Plans: Evaluate and update existing documentation for re-use as JBC-P evolves. Utilizing Game-like software and Smartphone-like hardware is expected to reduce the amount of user training required for the system.</p> <p>FY 2013 Base Plans: Continue evaluation and updating of existing documentation for re-use as JBC-P evolves. Utilizing Game-like software and Smartphone-like hardware is expected to reduce the amount of user training required for the system.</p>	0.250 0	0.150 0	0.200 0	-	0.200 0
<p>Title: *JBC-P: Developmental Test (DT)/Operational Test (OT)</p> <p align="right">Articles:</p> <p>FY 2011 Accomplishments: Test planning and development as well participation and evaluation of s/w and some h/w test events.</p> <p>FY 2012 Plans: Laboratories integrated with Huntsville Software Engineering Division (SED) and MCTSSA in order to facilitate test and network integration test events.</p> <p>FY 2013 Base Plans:</p>	0.500 0	0.250 0	0.200 0	-	0.200 0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy				DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>		PROJECT 2270: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)						
Continue laboratories integration with Huntsville Software Engineering Division (SED) and MCTSSA in order to facilitate test and network integration test events.						
Title: *JBC-P: System Engineering, Programmatic, and Logistics Program Support						
Articles:						
		0.306	0.307	0.400	-	0.400
		0	0	0		0
FY 2011 Accomplishments: Support personnel and travel.						
FY 2012 Plans: Support personnel and travel.						
FY 2013 Base Plans: Support personnel and travel.						
Title: *MAGTF C2: Engineering, research, development, integration and testing support for MAGTF release						
Articles:						
		4.516	-	-	-	-
		0				-
FY 2011 Accomplishments: Complete developmental of Service Oriented Infrastructure initial release, complete Information Assurance (IA), and Developmental Testing of the Service Oriented Infrastructure. Integrate into Combat Operations Center (COC) and complete developmental testing. Continue decoupling of services and applications from legacy systems in order to integrate to work with the Service Oriented Infrastructure. complete systems integration and conduct developmental/operational testing.						
Title: *MAGTF C2: Engineering, research, and software development for MAGTF capability release						
Articles:						
		2.993	11.595	7.592	-	7.592
		0	0	0		0
FY 2011 Accomplishments: Focus of effort is initiating adaptation, development and integration of entity, task and presentation services from multiple programs of record to operate with the Service. Initiated activities to incorporate functionality from the Fires, Logistics and Intelligence communities. Funds support a completion of TSOA Build 2 and 3.						
FY 2012 Plans: Focus of effort is initiating adaptation, development and integration of entity, task and presentation services from multiple programs of record to operate with the Service. Initiated activities to incorporate functionality from the Fires, Logistics and Intelligence communities. Initiate and build TSOA builds 4 and 5, with development of the MCTSSA hosted Application Environment and new IA services. Builds 4 and 5 introduce the enhanced						

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2270: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<p>Warfighter capability, and include interfaces with other Service SOA efforts, such as System of Systems Common Operating Environment (SOSCOE, Army) and Consolidated Afloat Network and Enterprise Services (CANES, Navy).</p> <p>FY 2013 Base Plans: Focus of effort is initiating adaptation, development and integration of entity, task and presentation services from multiple programs of record to operate with the Service. Initiated activities to incorporate functionality from the Fires, Logistics and Intelligence communities. Initiate and build 6 and 7. Builds 6 and 7 introduce enhanced collaboration and imagery functionality.</p>					
<p>Title: *MAGTF C2: Program Support. Software engineering program support</p> <p align="right">Articles:</p>	1.050 0	1.100 0	1.100 0	-	1.100 0
<p>FY 2011 Accomplishments: Federally Funded Research Center (FFRDC) software engineering support to provide appropriate government direction in design and development of software, conduct of source code reviews and prime vendor oversight.</p> <p>FY 2012 Plans: Federally Funded Research Center (FFRDC) software engineering support to provide appropriate government direction in design and development of software, conduct of source code reviews and prime vendor oversight.</p> <p>FY 2013 Base Plans: Federally Funded Research Center (FFRDC) software engineering support to provide appropriate government direction in design and development of software, conduct of source code reviews and prime vendor oversight.</p>					
<p>Title: *BFSA: Joint Interoperability Testing</p> <p align="right">Articles:</p>	0.056 0	0.020 0	-	-	-
<p>FY 2011 Accomplishments: Joint interoperability certification with U.S. Army.</p> <p>FY 2012 Plans: Continue Joint interoperability certification with U.S. Army.</p>					
<p>Title: *BFSA: Software Development, Integration and Testing</p> <p align="right">Articles:</p>	0.868 0	3.130 0	1.913 0	-	1.913 0
<p>FY 2011 Accomplishments:</p>					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2270: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<p>Joint Capability Release (JCR) software testing and integration on USMC unique platforms, software field user evaluation, and installation kit integration evaluation on USMC platforms.</p> <p>FY 2012 Plans: Software and network developmental efforts for USMC specific requirements, software field user evaluations and associated risk reduction events.</p> <p>FY 2013 Base Plans: Continue software and network developmental efforts for USMC specific requirements and associated risk reduction events.</p>					
<p>Title: BFSA: Software Certification and Accreditation</p> <p align="right">Articles:</p> <p>FY 2011 Accomplishments: Information assurance efforts to support certification and accreditation efforts of Joint Capability Release (JCR) software upgrades.</p> <p>FY 2012 Plans: Information assurance efforts to support certification and accreditation efforts of Joint Capability Release (JCR) software upgrades.</p> <p>FY 2013 Base Plans: Information assurance efforts to support certification and accreditation efforts of Joint Capability Release (JCR) software upgrades.</p>	0.378 0	0.140 0	0.141 0	-	0.141 0
<p>Title: *TCO: System testing and integration to develop additional functional capabilities.</p> <p align="right">Articles:</p> <p>Description: Hardware upgrade solutions were researched and documented, in preparation for seamless transition to future technology and increased software capability.</p> <p>FY 2011 Accomplishments: Continue developing Registration and Orchestration Capability Modules (CM).</p> <p>FY 2012 Plans: Execute Proof of Concept /backwards compatibility Registration and Orchestration Capability Modules (CM).</p> <p>FY 2013 Base Plans:</p>	2.140 0	2.142 0	1.194 0	-	1.194 0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy				DATE: February 2012																			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>		PROJECT 2270: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>																			
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)																							
Update Global capability as enhanced Command Operation Picture (COP) service. Integrate and test ability to exchange data with multiple Command and Control (C2) systems. Execute interoperability between Global and modules.																							
Title: *TCO: Integrate software changes into new system and perform testing.																							
Articles:																							
<table border="1"> <thead> <tr> <th></th> <th>FY 2011</th> <th>FY 2012</th> <th>FY 2013 Base</th> <th>FY 2013 OCO</th> <th>FY 2013 Total</th> </tr> </thead> <tbody> <tr> <td></td> <td>0.615</td> <td>0.482</td> <td>0.423</td> <td>-</td> <td>0.423</td> </tr> <tr> <td></td> <td>0</td> <td>0</td> <td>0</td> <td></td> <td>0</td> </tr> </tbody> </table>							FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total		0.615	0.482	0.423	-	0.423		0	0	0		0
	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total																		
	0.615	0.482	0.423	-	0.423																		
	0	0	0		0																		
FY 2011 Accomplishments:																							
The Marine Corps will develop Registration and Orchestration Capability Modules (CM) originally signed to and agreed upon by the Marine Corps under the Net Enabled Command Capability (NECC). As part of this FY11 effort, development will use advanced concepts and technologies specifically Tactical Service Oriented Architecture (TSOA). This development will include integration of the advanced concepts and technologies on existing, as well as possible upgraded hardware.																							
FY 2012 Plans:																							
Begin implementation of newly developed concepts and technologies for proof of concept.																							
FY 2013 Base Plans:																							
Continue implementation of newly developed concepts and technologies for proof of concept.																							
Title: *TCO: Testing and validations of advanced concepts and technologies.																							
Articles:																							
<table border="1"> <tbody> <tr> <td></td> <td>0.557</td> <td>1.043</td> <td>1.000</td> <td>-</td> <td>1.000</td> </tr> <tr> <td></td> <td>0</td> <td>0</td> <td>0</td> <td></td> <td>0</td> </tr> </tbody> </table>							0.557	1.043	1.000	-	1.000		0	0	0		0						
	0.557	1.043	1.000	-	1.000																		
	0	0	0		0																		
FY 2011 Accomplishments:																							
Continue testing as required.																							
FY 2012 Plans:																							
Continue testing as required.																							
FY 2013 Base Plans:																							
Continue testing as required.																							
Title: *IDS: System Development and Testing																							
Articles:																							
<table border="1"> <tbody> <tr> <td></td> <td>1.050</td> <td>0.941</td> <td>0.936</td> <td>-</td> <td>0.936</td> </tr> <tr> <td></td> <td>0</td> <td>0</td> <td>0</td> <td></td> <td>0</td> </tr> </tbody> </table>							1.050	0.941	0.936	-	0.936		0	0	0		0						
	1.050	0.941	0.936	-	0.936																		
	0	0	0		0																		
FY 2011 Accomplishments:																							
Provided system integration, testing, technical program documentation.																							
FY 2012 Plans:																							

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012				
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT				
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	PE 0206313M: <i>Marine Corps Comms Systems</i>	2270: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Provide system integration, testing, and technical program development documentation. FY 2013 Base Plans: Provide system integration, testing, and technical program development documentation in preparation for Materiel Development Decision.						
Title: *AFATDS: BUCS Software Development and Integration Articles:		0.200 0	-	-	-	-
FY 2011 Accomplishments: Improvements to data computations for new munitions for EFSS. Communications improvements to incorporate new radios procured by USMC.						
Title: *AFATDS: AFATDS Software Development and Integration Articles:		3.971 0	-	1.459 0	-	1.459 0
FY 2011 Accomplishments: Completed development of Increment I capabilities. Implemented AN-PRC117G radio configurations and "Ease-of-Use" features to improve user-interface.						
FY 2013 Base Plans: Limited AFATDS software and interface enhancements. Limited interoperability testing with JTCW software.						
Title: *TLDHS: Software Development Articles:		0.677 0	0.526 0	1.672 0	-	1.672 0
FY 2011 Accomplishments: Development of TLDHS software						
FY 2012 Plans: Continue the development of TLDHS software						
FY 2013 Base Plans: Continue the development of TLDHS software						
Title: *AFATDS: Information Assurance Support Articles:		0.900 0	-	0.500 0	-	0.500 0
FY 2011 Accomplishments:						

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy			DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2270: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>			
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					
Conducted Information Assurance Certification and Accreditation activities to ensure confidentiality, integrity, and availability of AFATDS/BUCS S/W as well as obtain/maintain Authority to Operate (ATO) and Authority to Connect (ATC) to the Marine Corps Enterprise Network (MCEN)..					
FY 2013 Base Plans: Continue Information Assurance Certification and Accreditation activities to ensure confidentiality, integrity, and availability of AFATDS/BUCS S/W.					
Title: *TLDHS: Testing and Evaluation					
Articles:					
	0.009 0	0.108 0	0.472 0	-	0.472 0
FY 2011 Accomplishments: Performed TLDHS software and hardware testing and testing of NEW, SDB, AODB and TBMCS, Link 16, VMF, DACAS Block I message and Short Range Tomahawk software with TLDHS software for interoperability and safety compliance.					
FY 2012 Plans: Continue to perform TLDHS software and hardware testing and testing of NEW, SDB, AODB and TBMCS, Link 16, VMF, DACAS Block II messaging with TLDHS software for interoperability and safety compliance.					
FY 2013 Base Plans: Continue to perform TLDHS software and hardware testing and testing of NEW, SDB, AODB and TBMCS, Link 16, VMF, DACAS Block II messaging with TLDHS software for interoperability and safety compliance.					
Title: TLDHS: Integration					
Articles:					
	0.009 0	0.108 0	0.472 0	-	0.472 0
FY 2011 Accomplishments: Integration efforts for Combat Operations Center (COC), Net Enabled Weapons (NEW), Small Diameter Bomb (SDB), Air Operational Database (AODB) and Theater Battle Management Core Systems (TBMCS), additional Link 16 message, Variable Message Format (VMF), Digital Aided Close Air Support (DACAS) Block I messaging, and Short Range Tomahawk software.					
FY 2012 Plans: Continues the integration of COC, NEW, SDB, AODB and TBMCS, additional Link 16 message, VMF, and DACAS Block II messaging.					
FY 2013 Base Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2270: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Continues the integration of COC, NEW, SDB, AODB and TBMCS, additional Link 16 message, VMF, and DACAS Block II messaging.					
Title: TLDHS: Software Oversight and Information Assurance Support	0.295	0.296	0.320	-	0.320
Articles:	0	0	0		0
FY 2011 Accomplishments: Performed software code review prior to testing, certification and accreditation and to obtain authority to operate (ATO) to the Marine Corps Enterprise Network.					
FY 2012 Plans: Continues software code review prior to testing, certification and accreditation and to obtain authority to operate (ATO) to the Marine Corps Enterprise Network.					
FY 2013 Base Plans: Continues software code review prior to testing, certification and accreditation and to obtain authority to operate (ATO) to the Marine Corps Enterprise Network.					
Accomplishments/Planned Programs Subtotals	24.739	23.810	21.119	-	21.119

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PMC/463300: <i>BFSA</i>	0.048	0.000	0.374	0.000	0.374	0.000	0.000	0.000	0.000	0.000	0.422
• PMC/463123: <i>JBCP</i>	0.000	1.125	11.687	0.000	11.687	0.000	0.000	0.000	0.000	Continuing	Continuing
• PMC/643800: <i>IDS</i>	0.000	1.808	0.000	0.000	0.000	1.808	5.419	6.371	0.831	Continuing	Continuing
• PMC/463105: <i>BFSA</i>	23.586	88.583	6.927	0.000	6.927	42.381	36.789	28.046	40.900	Continuing	Continuing
• PMC/463113: <i>TCO</i>	29.998	15.079	7.298	0.000	7.298	8.194	9.970	6.980	6.769	Continuing	Continuing
• PMC/463117: <i>TLDHS</i>	5.122	7.093	4.823	0.000	4.823	4.224	4.151	2.223	0.000	Continuing	Continuing
• PMC/463118: <i>AFATDS</i>	11.346	2.487	2.545	0.000	2.545	20.920	25.083	2.728	2.791	Continuing	Continuing
• PMC/463000: <i>TCO</i>	0.000	0.229	0.176	0.000	0.176	1.716	0.000	0.175	1.661	Continuing	Continuing

D. Acquisition Strategy
 TLDHS: The acquisition of components (software/hardware) for the TLDHS initiative will maximize the use of existing COTS, GOTS, NDI and GFE. Software development is conducted utilizing a sole source small-business contract. Software must maintain compatibility with 5 POR and 7 Operational Flight Programs (OFP).

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
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<p>AFATDS: AFATDS is a Cost Plus Award Fee contract through Army CECOM, Aberdeen Proving Ground, MD. R&D efforts will be a combined effort between the software developer (Raytheon), the Army PM and the USMC of software enhancements for the next planned versions of AFATDS.</p> <p>TCO: Contracting is done with various vendors for software test and integration, COTS evaluation and documentation to develop advanced concepts and additional functional capabilities. The PMO conducts quarterly performance reviews. Specific hardware is also procured for test purposes which include environmental, shock, compatibility and interoperability testing.</p> <p>MAGTF C2 SA: MAGTF C2 SA is delivering command and control capabilities through bi-annual software releases (with major releases in FY11, FY13, and FY15) through multiple programs of record. Currently the initial focus is developing the Tactical Service Oriented Architecture (TSOA) software, which provides a common software infrastructure through which services and applications from other programs of record can begin the process of interfacing with in order to maximize software commonality across echelons and missions. The long term goal is a software capability that will enable data discovery and data sharing across mission areas, a common standards-based viewer, core services and applications, and access to the GIG and other Joint networks, data and services.</p> <p>BFSA: The BFT FoS is leveraging an Army (PM Force Battle Command XXI Brigade and Below (FBCB2)) ACAT 1C program to deliver a critical battlefield command and control system to the operating forces. These systems operate on both a terrestrial and celestial network and enable tactical units to move more effectively by providing friendly unit identification and location, as well as friendly intent and status. The current focus is on testing and evaluating improved software which will make possible type-1 encryption and a greater bandwidth network. The long term goal is a secured reduced latency system that will greatly improve the battlefield commander's situational awareness and reduce the potential of fratricide.</p> <p>JBC-P: The JBC-P is leveraging the Army's (PM Force Battle Command XXI Brigade and Below (FBCB2)) development of the JBC-P software and the Marine Corps' program is contingent upon the Army's development and acquisition strategy. PM FBCB2 will fund research and development for JBC-P unless there are Service unique requirements, which the Marine Corps program office will fund. The Marine Corps' program office will participate in all design and readiness reviews and a joint operational testing events.</p> <p>Identity Dominance System (IDS): Currently, the IDS is leveraging off the Army's development of a DoD interoperable materiel solution and the Marine Corps' program is contingent upon the Army's acquisition strategy. The Marine Corps' program office will participate in all design and readiness reviews and as well as the IOT&E activities. The long-term goal is to equip the Marine with a user-friendly biometric authentication technology that will be employed throughout DoD to deny the enemy freedom of movement within the populace and positively identify known insurgents within an Area of Responsibility (AOR).</p> <p>E. Performance Metrics Milestone Reviews</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2270: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
TLDHS	C/CPFF	Stauder Tech:St. Louis, MO	14.966	0.659	Jan 2012	2.311	Jan 2013	-		2.311	Continuing	Continuing	Continuing
AFATDS	C/CPAF	Raytheon:Fort Wayne, IN	22.958	-		1.459	Jan 2013	-		1.459	Continuing	Continuing	Continuing
C2PC	C/CPIF	NGMS:San Diego	16.173	-		-		-		-	0.000	16.173	
MAGTF C2	C/CPIF	NGMS:San Diego	12.212	-		-		-		-	0.000	12.212	
MAGTF C2	MIPR	SPAWAR:Charleston, SC	30.730	5.628	Nov 2011	3.457	Nov 2012	-		3.457	Continuing	Continuing	Continuing
MAGTF C2	WR	NSWC:Panama City, FL	0.460	-		-		-		-	Continuing	Continuing	Continuing
MAGTF C2	C/CPFF	GD:Scottsdale, AZ	18.160	-		-		-		-	0.000	18.160	
MAGTF C2	C/CPFF	Viecore:NJ	0.402	-		-		-		-	0.000	0.402	
MAGTF C2	C/CPFF	MCSC:Quantico, VA	7.094	-		-		-		-	Continuing	Continuing	Continuing
MAGTF C2	C/CPFF	TBD:TBD	1.500	3.787	Dec 2011	2.235	Dec 2012	-		2.235	0.000	7.522	
MAGTF C2	WR	NSWC:Dahlgren, VA	-	1.000	Dec 2011	1.100	Dec 2012	-		1.100	0.000	2.100	
BFSA	MIPR	GECOM:Aberdeen Proving Grounds, MD	1.003	2.980	Feb 2012	1.903	Jan 2013	-		1.903	0.000	5.886	
TCO	MIPR	SPAWAR:Charleston, S.C.	6.994	2.624	Dec 2011	1.617	Dec 2012	-		1.617	Continuing	Continuing	Continuing
JBC-P	WR	SPAWAR:Charleston, SC	0.730	0.739	Jan 2012	0.708	Dec 2012	-		0.708	Continuing	Continuing	Continuing
JBC-P	C/FFP	MCSC:Quantico, VA	-	0.680	Mar 2012	0.500	Mar 2013	-		0.500	Continuing	Continuing	Continuing
IDS	C/CPFF	MCSC:Quantico, VA	2.499	0.941	Jun 2012	0.936	Jun 2013	-		0.936	Continuing	Continuing	Continuing
Subtotal			135.881	19.038		16.226		-		16.226			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

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Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
MAGTF C2	WR	MCTSSA:Camp Pendleton, CA	1.645	0.630	Oct 2011	0.600	Jan 2013	-		0.600	Continuing	Continuing	Continuing
JBC-P	C/FFP	MCSC:Quantico, VA	4.237	0.120	Mar 2012	0.120	Mar 2013	-		0.120	Continuing	Continuing	Continuing
AFATDS	C/CPFF	MCSC:Quantico	1.935	-		-		-		-	Continuing	Continuing	Continuing
Subtotal			7.817	0.750		0.720		-		0.720			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
TLDHS	WR	MCOTEA:Quantico, VA	1.527	-		-		-		-	Continuing	Continuing	Continuing
TLDHS	WR	MCTSSA:Camp Pendleton, CA	-	0.025	Jan 2012	0.105	Jan 2013	-		0.105	Continuing	Continuing	Continuing
TLDHS	WR	SPAWAR:Charleston, SC	0.069	0.179	Nov 2011	0.270	Dec 2012	-		0.270	Continuing	Continuing	Continuing
TLDHS	Reqn	NSWC:Dahlgren, VA	0.184	0.175	Jan 2012	0.250	Jan 2013	-		0.250	Continuing	Continuing	Continuing
AFATDS	WR	MCTSSA:Camp Pendleton, CA	2.431	-		-		-		-	Continuing	Continuing	Continuing
AFATDS	WR	MCOTEA:Quantico, VA	0.580	-		-		-		-	Continuing	Continuing	Continuing
AFATDS	WR	SPAWAR:Charleston, SC	2.678	-		0.500	Dec 2012	-		0.500	Continuing	Continuing	Continuing
TCO	MIPR	SPAWAR:Charleston, SC	1.232	1.043	Dec 2011	1.000	Dec 2012	-		1.000	Continuing	Continuing	Continuing
MAGTF C2	WR	MCOTEA:Quantico, VA	0.757	0.100	Oct 2011	-		-		-	Continuing	Continuing	Continuing
MAGTF C2	WR	MCTSSA:Camp Pendleton, CA	2.384	0.300	Feb 2012	0.200	Jan 2013	-		0.200	Continuing	Continuing	Continuing
MAGTF C2	MIPR	JITC:Ft. Huachuca, AZ	0.400	0.150	Feb 2012	-		-		-	Continuing	Continuing	Continuing
BFSA	WR	MCTSSA:Camp Pendleton, CA	0.374	0.100	Jan 2012	0.010	Jan 2013	-		0.010	Continuing	Continuing	Continuing
BFSA	WR	MCOTEA:Quantico, VA	1.185	0.050	Jan 2012	-		-		-	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2270: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
BFSA	MIPR	DISA:Ft. Huachuca, AZ	0.050	0.020	Jan 2012	-		-		-	Continuing	Continuing	Continuing
BFSA	WR	SPAWAR:Charleston, SC	4.359	0.140	Jan 2012	0.141	Dec 2012	-		0.141	Continuing	Continuing	Continuing
JBC-P	C/CPFF	MCOTEA:Quantico, VA	0.250	0.170	Jan 2012	0.170	Dec 2012	-		0.170	Continuing	Continuing	Continuing
JBC-P	WR	MCTSSA:Camp Pendleton, CA	0.250	0.050	Jan 2012	0.050	Dec 2012	-		0.050	Continuing	Continuing	Continuing
Subtotal			18.710	2.502		2.696		-		2.696			

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
MAGTF C2	MIPR	CECOM/MITRE:Ft Monmouth, NJ	1.975	1.100	Dec 2011	1.100	Dec 2012	-		1.100	Continuing	Continuing	Continuing
BFSA	C/FFP	MCSC:Quantico, VA	2.143	-		-		-		-	Continuing	Continuing	Continuing
JBC-P	C/FFP	MCSC:Quantico, VA	0.361	0.120	Mar 2012	0.077	Mar 2013	-		0.077	Continuing	Continuing	Continuing
JBC-P	MIPR	CECOM/MITRE:Ft Monmouth, NJ	0.613	0.200	Jan 2012	0.200	Dec 2012	-		0.200	Continuing	Continuing	Continuing
JBC-P	Various	MCSC/Travel:Quantico, VA	0.040	0.100	Sep 2012	0.100	Sep 2013	-		0.100	Continuing	Continuing	Continuing
Subtotal			5.132	1.520		1.477		-		1.477			

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		167.540	23.810		21.119		-	21.119			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy

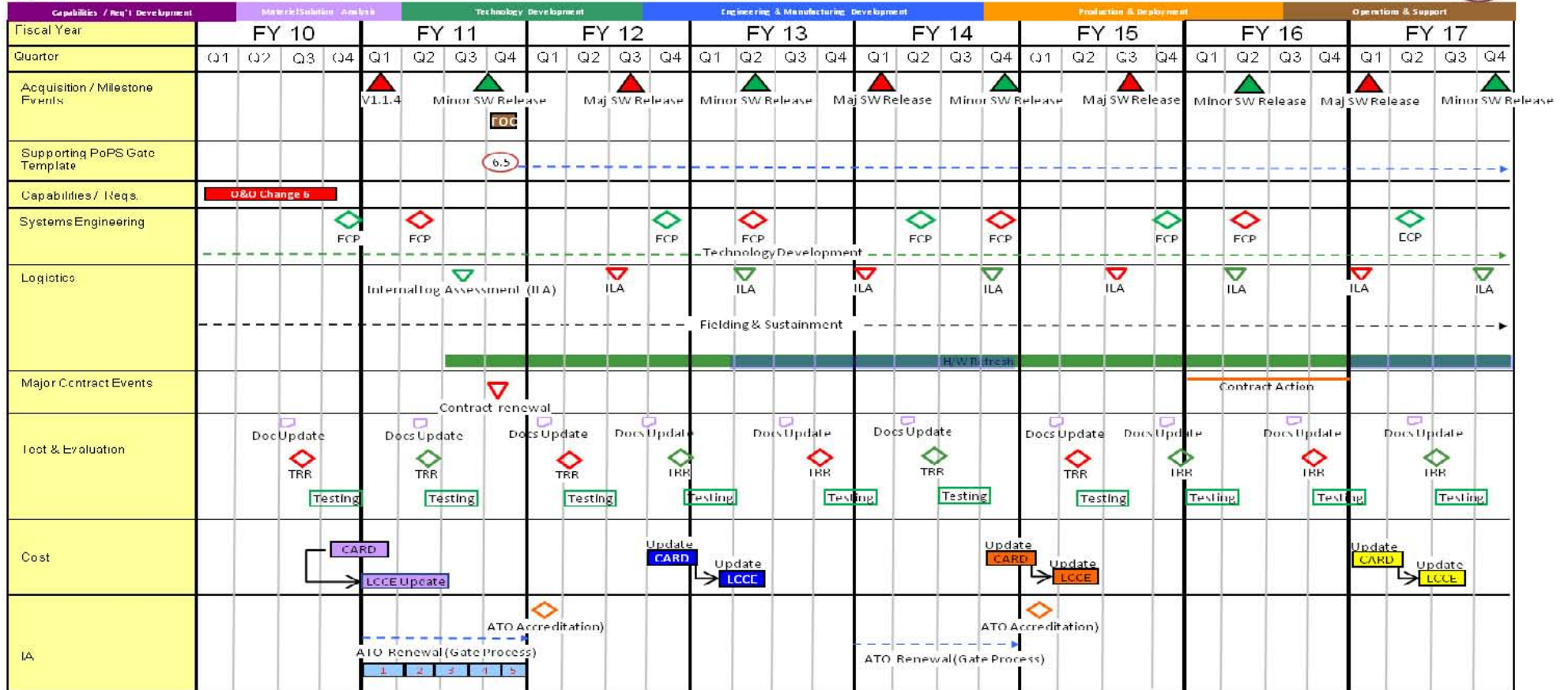
DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0206313M: Marine Corps Comms Systems

PROJECT
 2270: Exp Indirect Fire Gen Supt Wpn Sys

TLDHS Program Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy

DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY

1319: Research, Development, Test & Evaluation, Navy
BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE

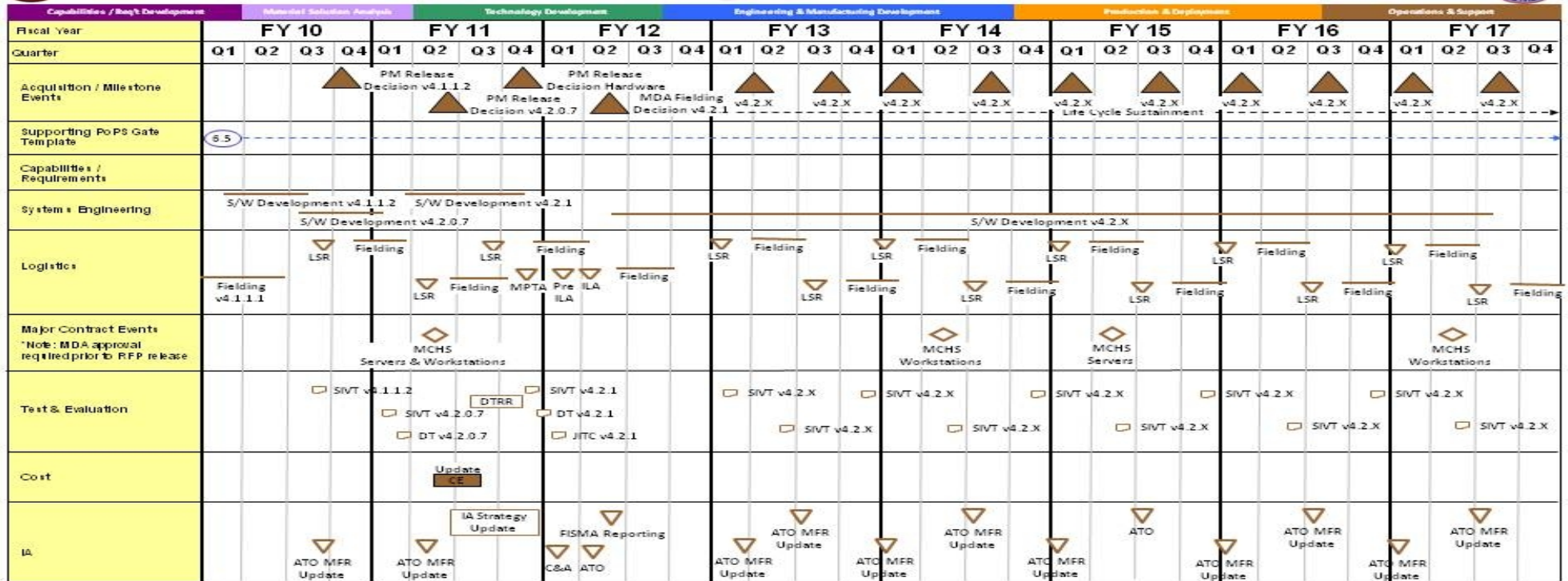
PE 0206313M: Marine Corps Comms Systems

PROJECT

2270: Exp Indirect Fire Gen Supt Wpn Sys



TCO Program Schedule



APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0206313M: Marine Corps Comms Systems

PROJECT
 2270: Exp Indirect Fire Gen Supt Wpn Sys

MAGTF C2 SA Schedule

Fiscal Year	FY 10				FY 11				FY 12				FY 13				FY 14				FY 15				FY 16				FY 17			
	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	Q1	Q2	Q3	Q4
Acquisition / Milestone Events Development Is per Increment					△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△	△
Supporting PoPS Gate Template									ITBOX 1								ITBOX 2								ITBOX 3							
Capabilities / Requirements					SRS	SRS	SRS	SRS	SRS	SRS	SRS	SRS	SRS	SRS	SRS	SRS	SRS	SRS	SRS	SRS	SRS	SRS	SRS	SRS	SRS	SRS	SRS	SRS	SRS	SRS	SRS	SRS
System s Engineering					DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR
Logistics					Trans To COC	Trans To COC	Trans To COC	Trans To COC	Trans To COC	Trans To COC	Trans To COC	Trans To COC	Trans To COC	Trans To COC	Trans To COC	Trans To COC	Trans To COC	Trans To COC	Trans To COC	Trans To COC	Trans To COC	Trans To COC	Trans To COC	Trans To COC	Trans To COC	Trans To COC	Trans To COC	Trans To COC	Trans To COC	Trans To COC	Trans To COC	Trans To COC
Major Contract Events					RFI	RFP+	Contract Award																									
Test & Evaluation For each Increment					STES				STES	TEMP			TEMP Update				TEMP Update				TEMP Update				TEMP Update				TEMP Update			
Cost									Initial LCCE																							
IA					IAA	IAA	IAA	IAA	IAA	IAA	IAA	IAA	IAA	IAA	IAA	IAA	IAA	IAA	IAA	IAA	IAA	IAA	IAA	IAA	IAA	IAA	IAA	IAA	IAA	IAA	IAA	IAA

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy

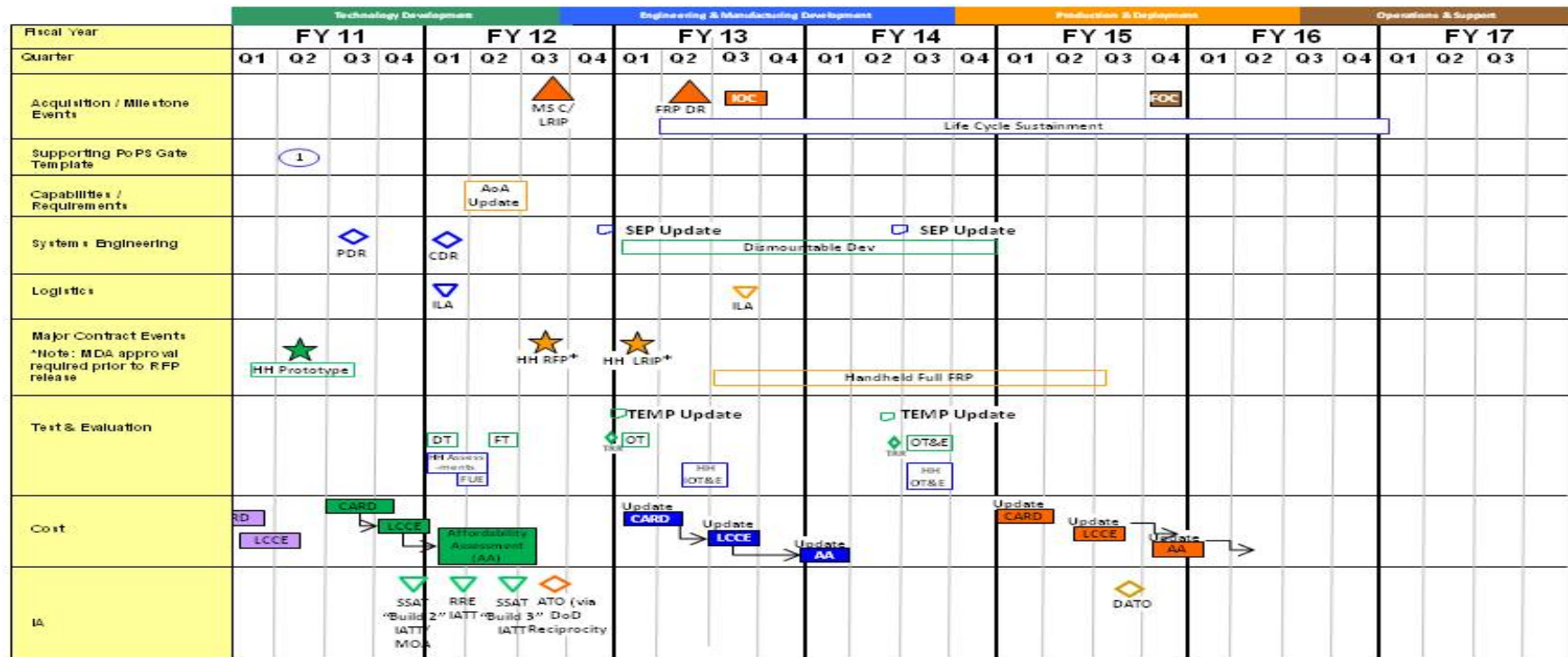
DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0206313M: Marine Corps Comms Systems

PROJECT
 2270: Exp Indirect Fire Gen Supt Wpn Sys

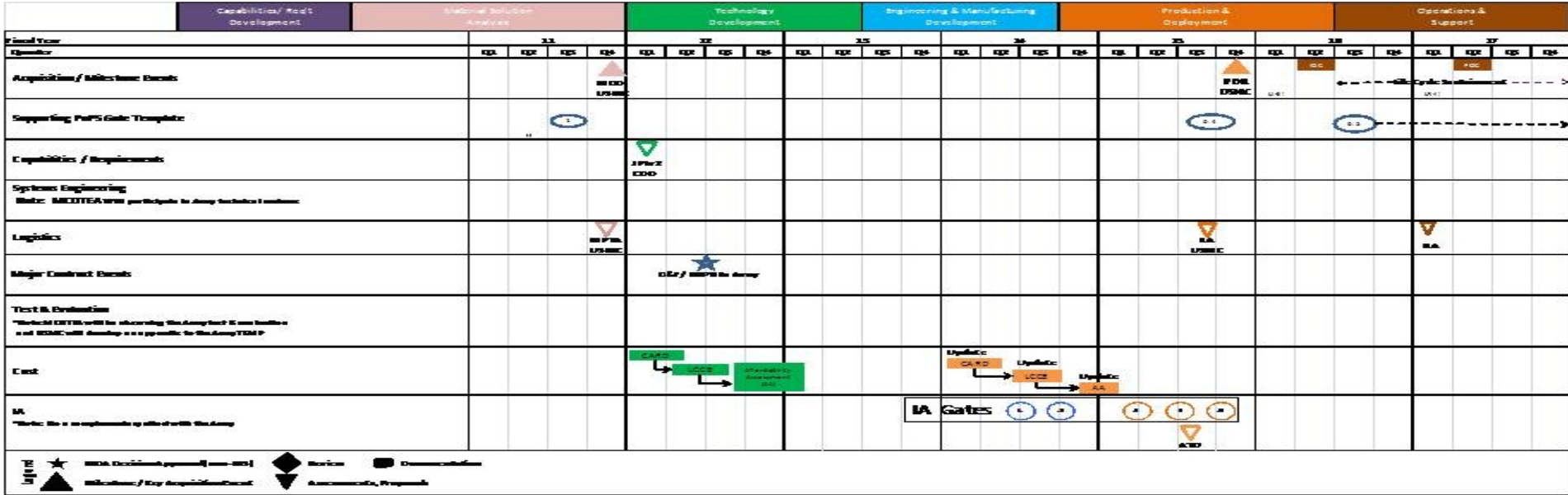
JBC-P Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0206313M: Marine Corps Comms Systems	PROJECT 2270: Exp Indirect Fire Gen Supt Wpn Sys

USMC IDS Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy

DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY

1319: Research, Development, Test & Evaluation, Navy
BA 7: Operational Systems Development

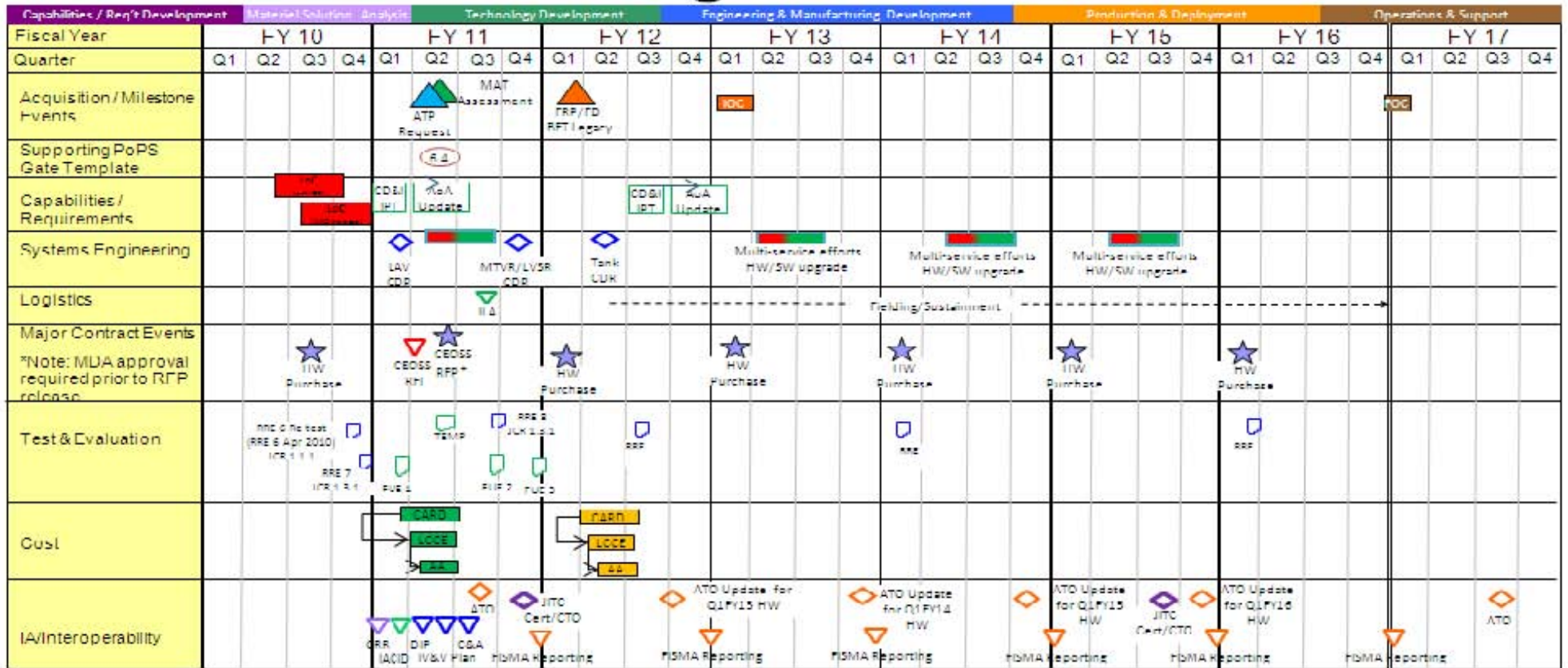
R-1 ITEM NOMENCLATURE

PE 0206313M: Marine Corps Comms Systems

PROJECT

2270: Exp Indirect Fire Gen Supt Wpn Sys

BFSA Program Schedule

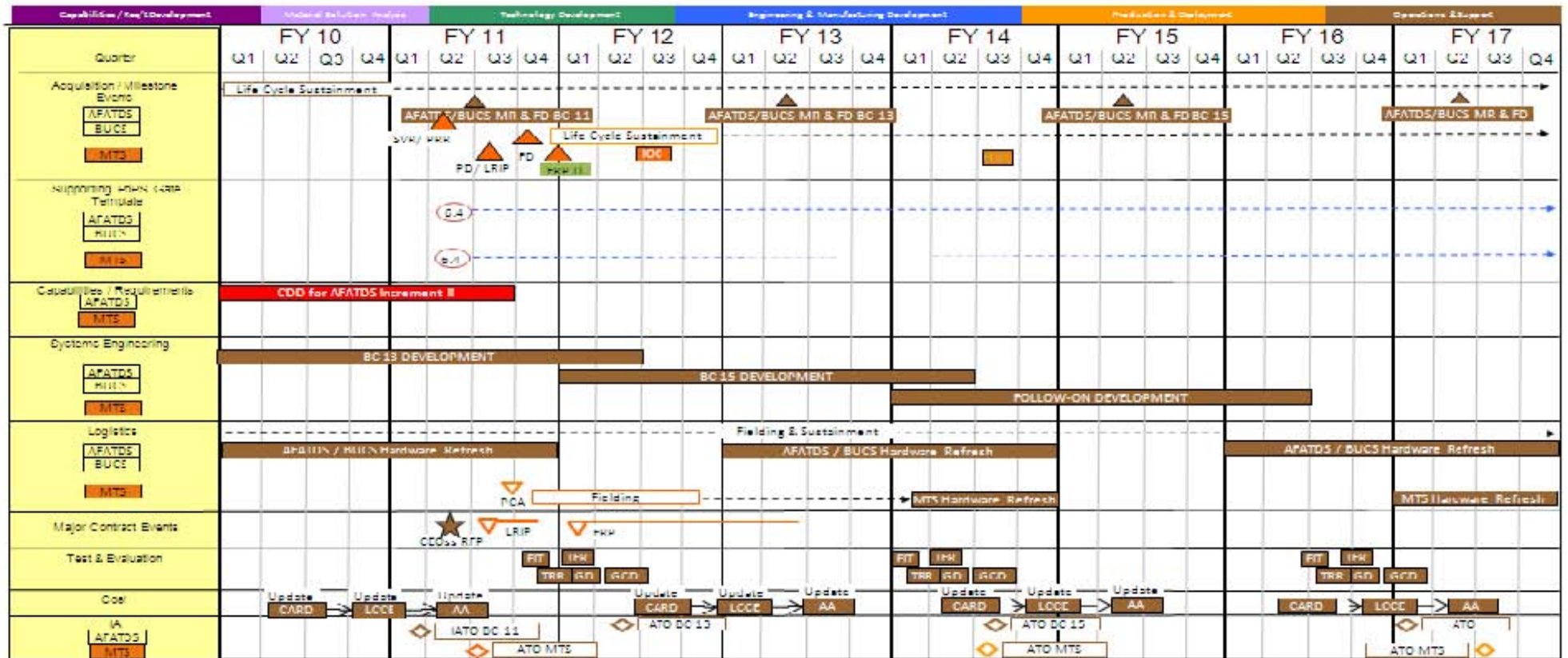


APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0206313M: Marine Corps Comms Systems

PROJECT
 2270: Exp Indirect Fire Gen Supt Wpn Sys

AFATDS Program Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2270: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2270				
JBC-P MS C	3	2012	3	2012
JBC-P LRIP Handheld	1	2013	1	2013
JBC-P FRP DR	2	2013	2	2013
TCO Hardware Refresh	1	2012	1	2012
MAGTF C2 SA JTCW 1.1 Release	1	2012	1	2012
MAGTF C2 SA TSOA IDIQ Contract Award	1	2012	1	2012
MAGTF C2 SA TSOA Increment 3 Release	2	2012	2	2012
MAGTF C2 SA TSOA Increment 4 Release	4	2012	4	2012
MAGTF C2 SA TSOA Increment 5 Release	2	2013	2	2013
MAGTF C2 SA TSOA Increment 6 Release	4	2013	4	2013
MAGTF C2 SA MCSRC Initiation	3	2012	3	2012
AFATDS BC13 (6.8) Development/Testing	1	2012	2	2012
AFATDS BC15 (6.9) Development/Testing	3	2012	1	2015
Follow on AFATDS Version Development	2	2015	3	2017
AFATDS MTS Fielding	4	2011	1	2014
BFSA JCR Field User Evaluation 1	1	2011	1	2011
BFSA JCR Field User Evaluation 2	3	2011	3	2011
BFSA JCR Capability FRP/FD	2	2012	2	2013
TLDHS Major S/W Release 1.2.1.x	3	2012	3	2012
TLDHS Major S/W Release 1.2.2.x	1	2014	1	2014
IDS Materiel Development Decision	4	2011	4	2011

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2270: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
IDS Milestone B	3	2012	3	2012
IDS Milestone C	1	2016	1	2016
IDS ILA for MS B	2	2013	2	2013
IDS Full Rate Production	2	2016	2	2016
IDS ILA for MS C	4	2015	4	2015
IDS Fielding Decision	4	2016	4	2016
IDS JPIv2 Capabilities Development Document	1	2013	1	2013
IDS IOC	3	2017	3	2017

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>				PROJECT 2273: <i>Air Ops Cmd & Control (C2) Sys</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2273: <i>Air Ops Cmd & Control (C2) Sys</i>	52.100	67.387	94.071	-	94.071	63.755	71.048	21.370	24.775	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Common Aviation Command and Control System (CAC2S) is a coordinated modernization effort to replace the existing aviation command and control equipment of the Marine Air Command and Control System (MACCS) and to provide the Aviation Combat Element with the necessary hardware, software, equipment, and facilities to effectively command, control, and coordinate aviation operations. The CAC2S system will accomplish the MACCS missions with a suite of operationally scalable modules to support the Marine Air Ground Task Force (MAGTF), Joint, and Coalition Forces. The CAC2S integrates the functions of aviation command and control into an interoperable system that will support the core competencies of all Marine Corps warfighting concepts. The CAC2S, in conjunction with MACCS organic sensors and weapons systems, supports the tenets of Expeditionary Maneuver Warfare and fosters joint interoperability. CAC2S Increment I will replace legacy aviation command and control systems in the following Marine aviation agencies: Direct Air Support Center (DASC), Tactical Air Command Center (TACC), and Tactical Air Operations Center (TAOC).

Theater Battle Management Core System (TBMCS) - Joint mandated Air War planning tool for the generation, dissemination and execution of the Air Tasking Order (ATO). TBMCS is an Air Force lead program, which provides the automated tools necessary to manage tactical air operations, execute area air defense and airspace management in the tactical area of operation, and coordinate operations with components of other military services. TBMCS is located at the Tactical Air Command Center (TACC), with remotes located throughout the Marine Air Ground Task Force (MAGTF). It is scalable, allowing for joint, coalition and service specific operations. It is an evolutionary acquisition program.

Composite Tracking Network (CTN) - will provide the Marine Air Ground Task Force (MAGTF) Commander a ground based sensor netting solution that significantly improves situational awareness by correlating sensor measurement data (target position, speed, heading, Identification Friend and Foe (IFF), etc.) from local and remote radars in the Cooperative Engagement Capability (CEC) network, which is then provided to the warfighter in the form of composite, real-time, air surveillance tracks. AN/MSQ-143A (V)I - funding will allow CTN to execute transportability testing and conduct a Field User Evaluation (FUE) of this system configuration. These events will wrap up the Testing for this configuration and allow the CTN Program Office to go to the MDA for a fielding decision for this system configuration. AN/MSQ-143A (V)I MTAOM Interface (USMC AC2 adaptive layer)- funding for this effort will allow CTN to conduct developmental testing of this interface. It will also allow the Program Office to conduct an IV&V of the software baseline that includes this adaptive layer. It will also fund the Follow On Test & Evaluation (FOT&E) of this interface. All of these events will be used by the MDA to make a fielding decision for the interface between CTN and MTAOM.

The Marine Air Command and Control System (MACCS) Sustainment - consists of various command and control agencies designed to provide the Aviation Combat Element (ACE) commander with the ability to monitor, supervise and influence the application of Marine aviation assets in support of MAGTF operations. The MACCS Sustainment provides funding to keep these fielded systems ready, relevant and capable until their functions are replaced by the Common Aviation Command and Control System (CAC2S).

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2273: <i>Air Ops Cmd & Control (C2) Sys</i>

Joint Cooperative Target ID Ground (JCTI-G) - The Program was refocused late in FY-11 to reflect the results of a JFCOM led AoA that determined the best path to follow for continued reduction of fratricide incidents. This was to support ongoing Funded and Programmed Capability Improvements (FPCI), supported by USMC Headquarters Capability Development & Integration (HQ CD&I) Branch. The FY12 JCTI-G resources will be applied to systems that will mitigate fratricide and improve operational effectiveness. Twenty four systems have been identified and all are on the Marine Corps' high priority requirement list. These funds will enable these programs to be modified, upgraded, and fielded to meet the current threat and the intent of the JCTI-G Memorandum of Understanding (MOU) between Vice Chief of Staff Army (VCSA) and Assistant Commandant of the Marine Corps (ACMC) dated 14 Jan 2010. This documents the Army and Marine Corps agreement to develop and field systems that will close the fratricide gap associated with the friendly Fires on Dismounts incidences. All of these Programs facilitate the warfighter's positive identification of friendly ground forces, thereby accelerating force sorting and enabling more effective and expeditious tactical decision-making.

Combat Operations Center (COC) AN/TSQ-239 (V)2/3/4 is a deployable, self-contained, modular, scalable and centralized facility which provides digital, shared Command and Control/Situational Awareness functionalities to enhance the Common Operational Picture (COP) for the Command Element, Ground Command Element, Air Combat Element, and Logistics Combat Element. It is a commercial-off-the-shelf integrated hardware solution using unit provided radios, re-hosted tactical data systems, and available Marine Corps prime movers to transport the system. Funds support testing and Information Assurance (IA) certification activities, integration of emerging technology, and On The Move (OTM) capabilities.

Remote Video Viewing Terminal (RVVT) - Provides warfighter with video connectivity to multiple types of aerial platforms (Pioneer, Dragon Eye, Raven B, Shadow, Predator, Fire Scout, and Litening Pod on P-3, AV8-B, and F/A-18). Data is displayed to Regimental Combat Teams and Forward Air Controller operators who coordinate with higher headquarters for fires. Product is intended to fit into the cargo pocket of the uniform in order to reduce the size of the receivers.

Joint Interface Control Office (JICO) Support System (JSS) - will provide net-centric services through a transformational management system to enable internet protocol-based networks of the future to operate efficiently with current tactical networks. It will manage complex tactical networks through an automated toolset and information repository that enables planning, management and analysis of tactical data link communications before, during and after operations.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: *JICO Support System: Program Management Support	0.480	0.497	-	-	-
Articles:	0	0			
FY 2011 Accomplishments: Program Office travel as an active participant "seat at the table" at USAF to support Increment 2 development.					
FY 2012 Plans: Program Office travel as an active participant "seat at the table" at USAF to support Increment 2 development.					
Title: *JCTI-G: Technology Development	2.652	16.124	-	-	-
Articles:	0	0			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy			DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2273: <i>Air Ops Cmd & Control (C2) Sys</i>				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)						
		FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<i>FY 2011 Accomplishments:</i> Completed the Analysis of Alternatives. Stood up the Joint Program Office (JPO).						
<i>FY 2012 Plans:</i> Release RFP in support of System Engineering. Prepare for Materiel Development Decision (MDD) and subsequent contract award for Technology Development (TD). Prepare documentation to support Milestone decision. Award TD phase contracts.						
<i>Title:</i> *JCTI-G: Program Management Support	<i>Articles:</i>	3.500 0	3.600 0	-	-	-
<i>FY 2011 Accomplishments:</i> Supported and completed the Analysis of Alternative that analyzed engineering candidate technologies. Conducted Modeling & Simulation (M&S) Efforts with Army Material Systems Analysis Activity (AMSAA) for the technology development phase.						
<i>FY 2012 Plans:</i> Continue M&S effort in support of Technology development. Initiate Specification and Request for System Development in support of technology development phase.						
<i>Title:</i> *JCTI-G: Management Services	<i>Articles:</i>	1.519 0	1.500 0	-	-	-
<i>FY 2011 Accomplishments:</i> Supported and completed the Analysis of Alternatives (AoA) Phase II. Developed Pre MS A documentation. Supported the start up of the Joint Program Office (JPO).						
<i>FY 2012 Plans:</i> Prepare MS A documentation. Continue JPO support.						
<i>Title:</i> *COC: Continued Capability Solution	<i>Articles:</i>	0.695 0	5.840 0	6.092 0	-	6.092 0
<i>FY 2011 Accomplishments:</i>						

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy			DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2273: <i>Air Ops Cmd & Control (C2) Sys</i>				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)						
		FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Complete Model G design, documentation, and testing. FY 2012 Plans: Complete (V)1 and OTM design, documentation, and testing. FY 2013 Base Plans: Conduct analysis of technologies for integration in COC Baseline.						
Title: *COC: Test and Evaluation	Articles:	0.326 0	0.350 0	0.361 0	-	0.361 0
FY 2011 Accomplishments: Funded MCOTEAJTIC for initial planning of Tactical Service Oriented Architecture (TSOA) testing. FY 2012 Plans: Funded MCOTEAJTIC for initial planning of (V)1 and OTM testing. FY 2013 Base Plans: Funds MCOTEAJTIC testing and analysis for COC.						
Title: *CTN: Engineering Development Model (EDM).	Articles:	2.147 0	2.461 0	1.567 0	-	1.567 0
FY 2011 Accomplishments: Funds Cooperative Engagement Capabilities (CEC) Wrap Around Simulation Program (WASP) Development. FY 2012 Plans: Funds CEC WASP Accreditation, SW Maintenance Support, Baseline Development. FY 2013 Base Plans: Continue to fund CEC WASP Accreditation, SW Maintenance Support, Baseline Development.						
Title: *CTN: Certification of Interfaces	Articles:	1.035 0	3.852 0	2.255 0	-	2.255 0
FY 2011 Accomplishments: Data Collection and Analysis, SW Configuration Management. FY 2012 Plans:						

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy				DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>		PROJECT 2273: <i>Air Ops Cmd & Control (C2) Sys</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					
Continue to fund Data Collection and Analysis, SW Independent Validation and Verification (IV&V) in preparation for FOT&E from Sept - Oct 2012.					
FY 2013 Base Plans: Common Aviation Command and Control System (CAC2S) and Ground/Air Task Oriented Radar (G/ATOR) Testing.					
Title: *CTN: Program Management Support.					
Articles:					
	0.882 0	0.400 0	- -	- -	- -
FY 2011 Accomplishments: MCSC Travel, Technical Services Corporation (TSC) support, Operational Test support, CM support, and SW support.					
FY 2012 Plans: MCSC Travel, Technical Services Corporation (TSC) support, Operational Test support, and SW support.					
Title: *MACCS SUSTAINMENT: TAOM, ADCP and CDLS.					
Articles:					
	1.113 0	5.201 0	8.988 0	- -	8.988 0
FY 2011 Accomplishments: Design and prototype modification kits for Commercial Item Technology Refresh for TAOM, SAAWF, TIU and MCIU.					
FY 2012 Plans: Conduct SFT and field 4 new CDLS to each TACC; test and field ADSI v.15; integrate Mode5/S into the TAOM; monitor the DSAN Life Cycle Support (LCS) contract; and repair/replace MERWS and 3:1 shelters as required. Migrate the TAOM/MTAOM software baseline from CMS to C++. Conduct testing and field software baseline as v. 7.0					
FY 2013 Base Plans: MITRE Effort; DSAN Support Contract, TAOC Life Cycle Support Contract, MTAOM Upgrade					
Title: *RVVT: Preparation of MS C and Full Rate Production and Fielding activities					
Articles:					
	0.437 0	0.739 0	0.589 0	- -	0.589 0
FY 2011 Accomplishments:					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy				DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>		PROJECT 2273: <i>Air Ops Cmd & Control (C2) Sys</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					
Competed for POM 14 funding, sustained legacy remote video terminals, executed fielding of legacy remote video terminals upgrade, planned for Type 1 encryption for legacy remote video terminals, developed and executed Pre-Milestone activities.					
FY 2012 Plans: Achieved Materiel Development Decision and completed Pre-Milestone activities- developed Life Cycle Cost Estimate, defined Alternative Materiel solutions, defined Exit Criteria, developed Alternative Maintenance and Sustainment Concept, and received Phas A money to complete a BCA in lieu of an Alanalysis of Alternatives (AoA). Developed a way ahead to merge efforts with The Target Location Designation and Handoff System (TLDHS) to meet the fleets need of a combined capability to connect to VideoScout Systems to view video feed. Development and testing of the combined capability is currently being conducted.					
FY 2013 Base Plans: Continuation of FY12 efforts to complete Milestone B and merge efforts with TLDHS.					
Title: *TBMCS: Program management support.					
Articles:					
	0.431 0	0.460 0	0.500 0	-	0.500 0
FY 2011 Accomplishments: Program Management support.					
FY 2012 Plans: Program Management support.					
FY 2013 Base Plans: Program Management support.					
Title: *TBMCS: Test and Evaluation for TBMCS Upgrades Joint Interoperability.					
Articles:					
	0.100 0	0.122 0	2.403 0	-	2.403 0
FY 2011 Accomplishments: Test and Evaluation for TBMCS Upgrades Joint Interoperability.					
FY 2012 Plans: Test and Evaluation for TBMCS Upgrades Joint Interoperability.					
FY 2013 Base Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2273: <i>Air Ops Cmd & Control (C2) Sys</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Test and Evaluation for TBMCS Upgrades Joint Interoperability.					
<p>Title: *CAC2S: Program Management Support.</p> <p align="right">Articles:</p> <p>FY 2011 Accomplishments: Program management support which includes business/financial, engineering and logistical support for Phase 1 and 2 efforts.</p> <p>FY 2013 Base Plans: Program management support which includes business/financial, engineering and logistical support for Phase 1 and 2 efforts.</p>	1.400 0	-	4.000 0	-	4.000 0
<p>Title: *CAC2S: Test and Evaluation and Information Assurance Certification.</p> <p align="right">Articles:</p> <p>FY 2011 Accomplishments: Information Assurance certification test scans and Phase 1 IOT&E efforts.</p> <p>FY 2012 Plans: Focus mainly on Information Assurance certification test scans.</p> <p>FY 2013 Base Plans: Phase 2 Information Assurance certification test scans.</p>	1.950 0	2.542 0	3.265 0	-	3.265 0
<p>Title: *CAC2S: EDM, TR, Gov't DT</p> <p align="right">Articles:</p> <p>FY 2011 Accomplishments: Designed and Developed Engineering Developmental Models (EDM) for Phase 2, which was accomplished by awarding multiple contracts. Contractors produced a Sensor Data Subsystem prototype and demonstrated to the government. Support integration testing and DT with G/ATOR and AC2. Funds supported activities at NSWC Crane and Dahlgren and many other support activities.</p> <p>FY 2012 Plans:</p>	12.541 0	4.742 0	37.824 0	-	37.824 0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2273: <i>Air Ops Cmd & Control (C2) Sys</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<p>Once a contractor is selected from the demonstration as described under the FY11 funding, Phase 2 development and integration of the Sensor Data Subsystem continues. Most of the funding will be expended by Phase 2 SDS contractor but will also fund support activities NSWC Crane, Dahlgren and other support activities.</p> <p>FY 2013 Base Plans: Phase 2 development and integration of the Sensor Data Subsystem continues. Four (4) EDM's will be built this year. Most of the funding will be expended by Phase 2 SDS contractor but will also fund support activities at NSWC Crane, Dahlgren and other support activities.</p>					
<p>Title: *CAC2S: Software development, DT, FUE, OA.</p> <p align="right">Articles:</p>	17.570 0	14.436 0	22.800 0	-	22.800 0
<p>FY 2011 Accomplishments: Completed Engineering and Development of the Phase 1 Systems with successful DT and IOT\$E leading to a successful Full Deployment Decision. Support Phase 2 EDM development and successful demonstrations at MCTSSA.</p> <p>FY 2012 Plans: Continue Phase 2 EDM data and information fusion component hardware and software development.</p> <p>FY 2013 Base Plans: Continue Phase 2 EDM data and information fusion component hardware and software development.</p>					
<p>Title: *CAC2S: Engineering, Management and Logistics Support</p> <p align="right">Articles:</p>	3.322 0	4.521 0	3.427 0	-	3.427 0
<p>FY 2011 Accomplishments: Engineering, Management & Logistics Support</p> <p>FY 2012 Plans: Engineering, Management & Logistics Support</p> <p>FY 2013 Base Plans: Engineering, Management & Logistics Support</p>					
Accomplishments/Planned Programs Subtotals	52.100	67.387	94.071	-	94.071

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2273: <i>Air Ops Cmd & Control (C2) Sys</i>
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C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2011	FY 2012	FY 2013	FY 2013	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Cost To	
			Base	OCO	Total					Complete	Total Cost
• PMC/464017: CTN	17.360	7.016	0.100	0.000	0.100	12.307	9.332	2.354	0.000	Continuing	Continuing
• PMC/464002: MACCS	37.747	17.005	23.114	0.000	23.114	10.099	2.861	0.885	0.046	Continuing	Continuing
<i>Sustainment</i>											
• PMC/464003: TBMCS	5.986	6.580	3.585	0.000	3.585	4.465	3.852	4.685	3.721	Continuing	Continuing
• PMC/464000: JCTI-G	1.600	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• PMC/419005: COC	147.561	16.755	1.420	0.000	1.420	23.628	20.541	15.769	15.305	Continuing	Continuing
• PMC/464023: RVVT	5.614	2.923	0.001	0.000	0.001	4.695	5.775	6.952	14.647	Continuing	Continuing
• PMC/4640008: CAC2S	42.355	15.864	0.065	0.000	0.065	20.080	29.598	67.700	43.329	Continuing	Continuing
• PMC/4630000: MACCS	0.033	2.554	8.715	0.000	8.715	1.760	0.866	1.843	0.000	Continuing	Continuing
<i>Sustainment</i>											

D. Acquisition Strategy

CAC2S will employ an evolutionary acquisition strategy utilizing an incremental and phased approach for development and fielding of the CAC2S. The CPD identifies two increments to achieve the full requirements of CAC2S. The current acquisition strategy addresses Increment I of the CAC2S development process and focuses on the requirements that will modernize the assault and air support, air defense and control, and ACE battle management capabilities of the MACCS. Increment I of the CAC2S will be accomplished through a two phased approach. Phase 1 will address the requirements to establish the baseline CAC2S capabilities for the MACCS and improve AC2 performance and effectiveness. Phase 2 will address the requirements for remaining ACE BMC2 requirements

Theater Battle Management Core Systems (TBMCS) - TBMCS is an ACAT III, USAF Program with joint interest/oversight. It was mandated by the Chairman, Joint Chiefs of Staff in July 93 for Air Tasking Order (ATO) Interoperability among all services. The USMC will not be letting any competitive contracts for TBMCS, but following the USAF lead, utilizing USAF TBMCS contracts and fielding only the joint modules of TBMCS. As USMC unique requirements are identified and funded, they will be provided to the USAF (to include funding) for inclusion within TBMCS utilizing the USAF delivery order (fixed price) contract. Over the course of the FYDP, the USMC will leverage USAF software support activities vice funding strictly USMC software support.

MACCS SUSTAINMENT - The acquisition strategy implemented by the MACCS Sustainment Program Office is to maintain the readiness, relevance, and capabilities of the portfolio of post-Milestone C systems through Post Deployment Software Support (PDSS) activities, active refresh of obsolete hardware items, and the implementation of system improvements/modifications in accordance with approved systems engineering processes. Engineering changes to the systems make maximum use of Commercial Off-The-Shelf (COTS), Government Off-The-Shelf (GOTS), and Non-Developmental Items (NDI) in order to decrease risk, leverage developed capabilities and support apparatus, and minimize investment expenditures. These activities are performed by Original Equipment Manufacturer (OEM) commercial entities under contract to Marine Corps Systems Command (MCSC) or by Naval Surface Warfare Center (NSWC) Crane as the MACCS Sustainment Program In-Service Engineering Agent (ISEA). The next major milestone for the MACCS Sustainment Programs is Phase-out or Disposal as the replacement Common Aviation Command and Control System (CAC2S) reaches full operational capability.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2273: <i>Air Ops Cmd & Control (C2) Sys</i>
<p>CTN - The USMC's CTN acquisition strategy is to participate in the USN's program procurement and testing, making necessary modifications to support the Marine Corps' requirement.</p> <p>JCTI-G - A Technology Development Strategy will be developed in FY12.</p> <p>RVVT - Program Office utilized SSC-LANT to fulfill a competitive acquisition approach to quickly field a capability with limited development. SSC-LANT is currently still in contract negotiations with L-3, expect negotiations to be complete 2 Qtr FY12.</p> <p>COC - The Combat Operations Center (COC) AN/TSQ-239 (V)2/3/4 is the foundation of USMC C2, meeting near term communications and network requirements in OEF and GWOT. There is a continuing developmental effort to evolve the COC into a fully integrated MAGTF C2 capability. FY12 and FY13 supports continual tech refresh, modernization and software upgrade releases.</p> <p>E. Performance Metrics N/A</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2273: <i>Air Ops Cmd & Control (C2) Sys</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
CTN	WR	NSWC:Crane, IN	3.736	-		0.667	Mar 2013	-		0.667	0.000	4.403	
CTN	WR	NAVSEA PEO IWS:Washington, DC	4.495	2.461	Apr 2012	0.900	Apr 2013	-		0.900	0.000	7.856	
MACCS Sustainment	Reqn	NGES:Woodland Hills, CA	17.415	1.516	Jun 2012	4.042	Nov 2012	-		4.042	Continuing	Continuing	Continuing
MACCS Sustainment 1	WR	NSWC:Crane, IN	1.664	1.257	Nov 2011	0.378	Nov 2012	-		0.378	0.000	3.299	
COC	WR	SPAWAR:Charleston, SC	12.267	1.224	Mar 2012	1.339	Oct 2012	-		1.339	Continuing	Continuing	Continuing
COC	Reqn	General Dynamics:Not Specified	27.811	-		-		-		-	Continuing	Continuing	Continuing
COC	Reqn	Coherent:Johnstown, PA	0.299	-		-		-		-	0.000	0.299	
COC	WR	NSWC:Crane, IN	0.220	-		-		-		-	0.000	0.220	
COC	C/CPIF	TBD:Not Specified	0.707	4.616	Jun 2012	4.753	Jun 2013	-		4.753	0.000	10.076	
JCTI-G	WR	NSWC:Crane, IN	5.217	3.600	Jan 2012	-		-		-	Continuing	Continuing	Continuing
JCTI-G Pax 1	WR	NAVAIR:Pax River, MD	0.145	-		-		-		-	0.000	0.145	
JCTI-G Pax 2	Reqn	NAVAIR:Pax River, MD	1.830	-		-		-		-	0.000	1.830	
JCTI-G Contractor 1	C/FFP	TBD:TBD	-	8.336	Jun 2012	-		-		-	0.000	8.336	
JCTI-G Contractor 2	C/FFP	TBD:TBD	-	8.313	Jun 2012	-		-		-	0.000	8.313	
CAC2S	WR	NSWC:Crane, IN	22.525	0.750	Oct 2011	1.500	Oct 2012	-		1.500	0.000	24.775	
CAC2S	C/CPIF	General Dynamics:Quantico, VA	8.603	-		-		-		-	0.000	8.603	
CAC2S	C/FFP	Phase 2 Contractor:Quantico, VA	20.393	15.369	Aug 2012	54.991	Nov 2012	-		54.991	0.000	90.753	
CAC2S	WR	NSWC:Dahlgren, VA	25.519	5.210	Nov 2011	5.300	Nov 2012	-		5.300	0.000	36.029	
CAC2S	MIPR	NAVSEA:Washington, DC	-	1.252	Jan 2012	-		-		-	0.000	1.252	
Subtotal			152.846	53.904		73.870		-		73.870			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2273: <i>Air Ops Cmd & Control (C2) Sys</i>
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Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
CTN	WR	NSWC:Dahlgren, VA	0.700	0.383	Jan 2012	0.100	Jan 2013	-		0.100	0.000	1.183	
CTN	WR	NSWC:PHD	0.224	0.208	Feb 2012	-		-		-	0.000	0.432	
CTN	WR	NSWC:Crane, IN	0.400	-	Feb 2012	0.500	Feb 2013	-		0.500	0.000	0.900	
CTN	MIPR	MACCS:Quantico, VA	0.140	-		-		-		-	0.000	0.140	
CTN	WR	NAVSEA:Wallops Island, VA	0.316	0.300	Jan 2012	-		-		-	0.000	0.616	
CTN	Various	Travel-TAD:Not Specified	0.225	0.530	Sep 2012	0.500	Sep 2013	-		0.500	0.000	1.255	
CTN	WR	SPAWAR:Charleston, SC	0.435	-		-		-		-	0.000	0.435	
MACCS Sustainment 1	WR	NSWC:Crane, IN	0.089	-		0.300	Dec 2012	-		0.300	0.000	0.389	
MACCS Sustainment	Reqn	NGES:Woodland Hills, CA	-	1.500	Nov 2011	2.485	Oct 2012	-		2.485	0.000	3.985	
COC	MIPR	NUWC:Newport, RI	0.200	-		-		-		-	0.000	0.200	
JCTI-G	Reqn	Tecolote:Arlington, VA	2.092	0.175	May 2012	-		-		-	Continuing	Continuing	Continuing
CAC2S	WR	Travel-TAD:Not Specified	1.000	0.250	Oct 2011	0.500	Oct 2012	-		0.500	0.000	1.750	
CAC2S	WR	NSWC Carderock:Carderock, MD	0.250	-		-		-		-	0.000	0.250	
CAC2S	C/CPAF	AMSSA:APG, Maryland	-	0.225	Nov 2011	0.225	Nov 2012	-		0.225	0.000	0.450	
CAC2S	WR	SPAWAR:Charleston, SC	-	0.110	Nov 2011	0.200	Nov 2012	-		0.200	0.000	0.310	
CAC2S	WR	JITC:Fort Huachuca, AZ	0.961	0.100	Nov 2011	0.200	Nov 2012	-		0.200	0.000	1.261	
CAC2S	MIPR	MITRE:Boston, MA	4.863	1.200	Nov 2011	1.500	Nov 2012	-		1.500	0.000	7.563	
CAC2S	WR	MACCS-X:Camp Pendleton	1.564	-		-		-		-	0.000	1.564	
CAC2S	WR	MCTSSA:Camp Pendleton	2.606	0.500	Jan 2012	0.500	Nov 2012	-		0.500	0.000	3.606	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2273: <i>Air Ops Cmd & Control (C2) Sys</i>
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Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
CAC2S	WR	NSWC Corona:Corona, CA	2.903	0.900	Nov 2012	1.200	Nov 2012	-		1.200	0.000	5.003	
CAC2S	C/FP	BAH:Stafford, VA	2.003	-		-		-		-	0.000	2.003	
SIAP	C/FP	RNB Technologies:Stafford VA	5.374	-		-		-		-	0.000	5.374	
TBMCS	Various	Travel:Not Specified	0.050	0.026	Oct 2011	-		-		-	0.000	0.076	
JSS	WR	MCTSSA:Camp Pendleton	0.183	0.183	Dec 2011	-		-		-	0.000	0.366	
Subtotal			26.578	6.590		8.210		-		8.210			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
CAC2S	WR	NSWC Port Hueneme:Port Hueneme, CA	-	0.225	Nov 2011	0.200	Nov 2012	-		0.200	0.000	0.425	
TBMCS	C/FFP	Lockheed Martin:Colorado Springs, CO	-	-		2.409	Dec 2012	-		2.409	0.000	2.409	
CTN	WR	Aberdeen Test Center:Aberdeen, MD	-	0.150	Oct 2011	-		-		-	0.000	0.150	
CTN	WR	MCSC CTQ:Quantico, VA	0.025	-		-		-		-	0.000	0.025	
CTN	WR	PEO IWS 6:St. Petersburg, FL	4.017	1.141	Dec 2011	0.425	Sep 2013	-		0.425	0.000	5.583	
CTN	WR	NSWC Corona:Corona, CA	1.114	0.420	Feb 2012	-		-		-	0.000	1.534	
CTN	WR	NSWC DD:Dahlgren, VA	0.942	0.320	Aug 2012	0.036	Sep 2013	-		0.036	0.000	1.298	
CTN	WR	Fort Huachuca:JITC	0.008	-		-		-		-	0.000	0.008	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2273: <i>Air Ops Cmd & Control (C2) Sys</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
CTN	WR	MCOTEA:Quantico VA	1.144	0.400	Jan 2012	0.700	Jan 2013	-		0.700	0.000	2.244	
CTN	WR	MCSC:Quantico, VA	3.876	-		-		-		-	0.000	3.876	
CTN	WR	NSWC:Crane, IN	1.064	-		-		-		-	0.000	1.064	
MACCS Sustainment	WR	Aberdeen Test Center:Aberdeen, MD	0.273	0.211	Nov 2011	0.211	Nov 2012	-		0.211	0.000	0.695	
MACCS Sustainment 2	Various	MCOTEA:Quantico, VA	-	0.467	Dec 2011	1.272	Dec 2012	-		1.272	0.000	1.739	
MACCS Sustainment 1	WR	NSWC:Crane, IN	0.050	-		-		-		-	0.000	0.050	
RVVT	WR	SSC-LANT:North Charleston, SC	-	0.124	Nov 2011	0.043	Nov 2012	-		0.043	0.000	0.167	
COC	MIPR	MCOTEA:Quantico, VA	0.728	0.206	Mar 2012	0.212	Oct 2012	-		0.212	0.000	1.146	
COC	MIPR	JTIC:Not Specified	0.140	0.144	Mar 2012	0.149	Mar 2013	-		0.149	0.000	0.433	
JCTI-G	WR	MCOTEA:Quantico, VA	0.180	0.200	Nov 2011	-		-		-	Continuing	Continuing	Continuing
TBMCS	WR	MCOTEA:Quantico, VA	0.560	0.120	Nov 2011	0.150	Nov 2012	-		0.150	0.000	0.830	
CAC2S	WR	MCOTEA:Quantico, VA	6.350	0.150	Nov 2011	1.000	Nov 2012	-		1.000	0.000	7.500	
Subtotal			20.471	4.278		6.807		-		6.807			

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
CTN	WR	MCSC:Quantico, VA	0.882	0.400	Nov 2011	-		-		-	0.000	1.282	
MACCS Sustainment	C/FFP	MCSC:Quantico, VA	0.100	0.250	Jan 2012	0.300	Jan 2013	-		0.300	0.000	0.650	
COC	Reqn	MCSC:Quantico, VA	0.057	-		-		-		-	0.000	0.057	
COC	Reqn	NGMS:Stafford, VA	4.053	-		-		-		-	0.000	4.053	
JCTI-G	C/FFP	QNA:Stafford, VA	1.779	0.600	Mar 2012	-		-		-	Continuing	Continuing	Continuing
JCTI-G	C/FFP	MCSC:Quantico, VA	2.759	-		-		-		-	Continuing	Continuing	Continuing
RVVT	C/FFP	QNA:Stafford, VA	0.437	0.615	Feb 2012	0.535	Feb 2013	-		0.535	0.000	1.587	
CAC2S	C/FFP	QNA:Stafford, VA	13.796	-		4.000	Nov 2012	-		4.000	0.000	17.796	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2273: <i>Air Ops Cmd & Control (C2) Sys</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
JSS	WR	Travel TAD:Not Specified	0.010	0.022	Oct 2011	-		-		-	Continuing	Continuing	Continuing
JSS	Reqn	TASC:Stafford, VA	0.041	0.147	Nov 2011	-		-		-	Continuing	Continuing	Continuing
JSS	WR	SPAWAR Chas:Charleston, SC	0.150	0.050	Dec 2011	-		-		-	0.000	0.200	
JSS	WR	Hanscom AFB:Boston, MA	0.098	0.095	Feb 2012	-		-		-	0.000	0.193	
TBMCS	C/FFP	QNA:Stafford VA	1.977	0.436	Nov 2011	0.349	Nov 2012	-		0.349	0.000	2.762	
Subtotal			26.139	2.615		5.184		-		5.184			
			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			226.034	67.387		94.071		-		94.071			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy

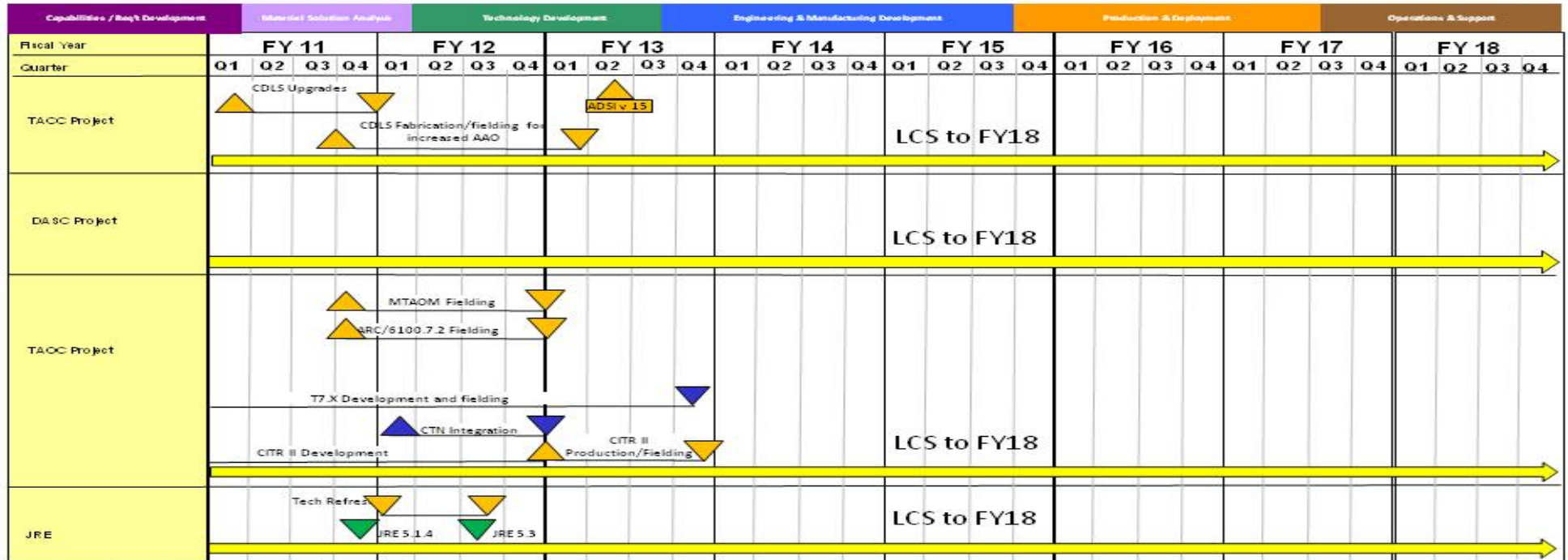
DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY
 1319: *Research, Development, Test & Evaluation, Navy*
 BA 7: *Operational Systems Development*

R-1 ITEM NOMENCLATURE
 PE 0206313M: *Marine Corps Comms Systems*

PROJECT
 2273: *Air Ops Cmd & Control (C2) Sys*

MACCS FoS Program Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy

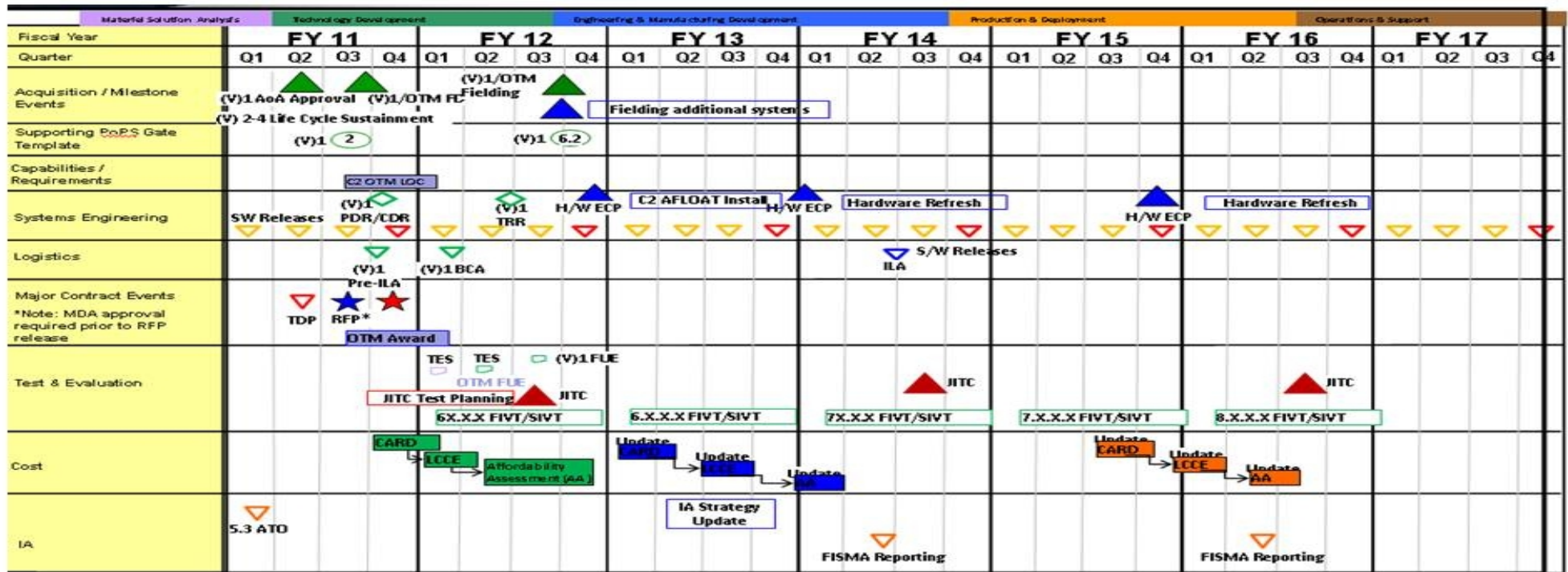
DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0206313M: Marine Corps Comms Systems

PROJECT
 2273: Air Ops Cmd & Control (C2) Sys

COC Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy

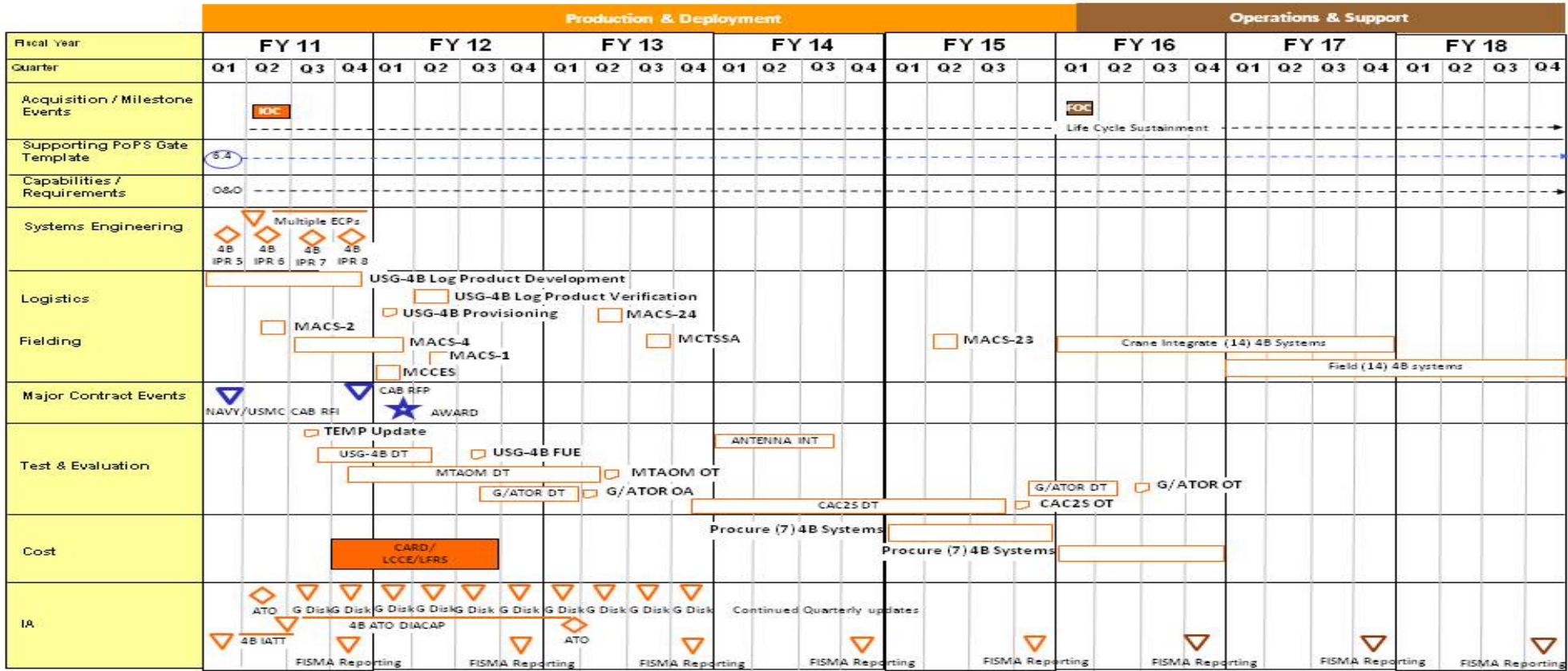
DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY
 1319: *Research, Development, Test & Evaluation, Navy*
 BA 7: *Operational Systems Development*

R-1 ITEM NOMENCLATURE
 PE 0206313M: *Marine Corps Comms Systems*

PROJECT
 2273: *Air Ops Cmd & Control (C2) Sys*

CTN Program Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy

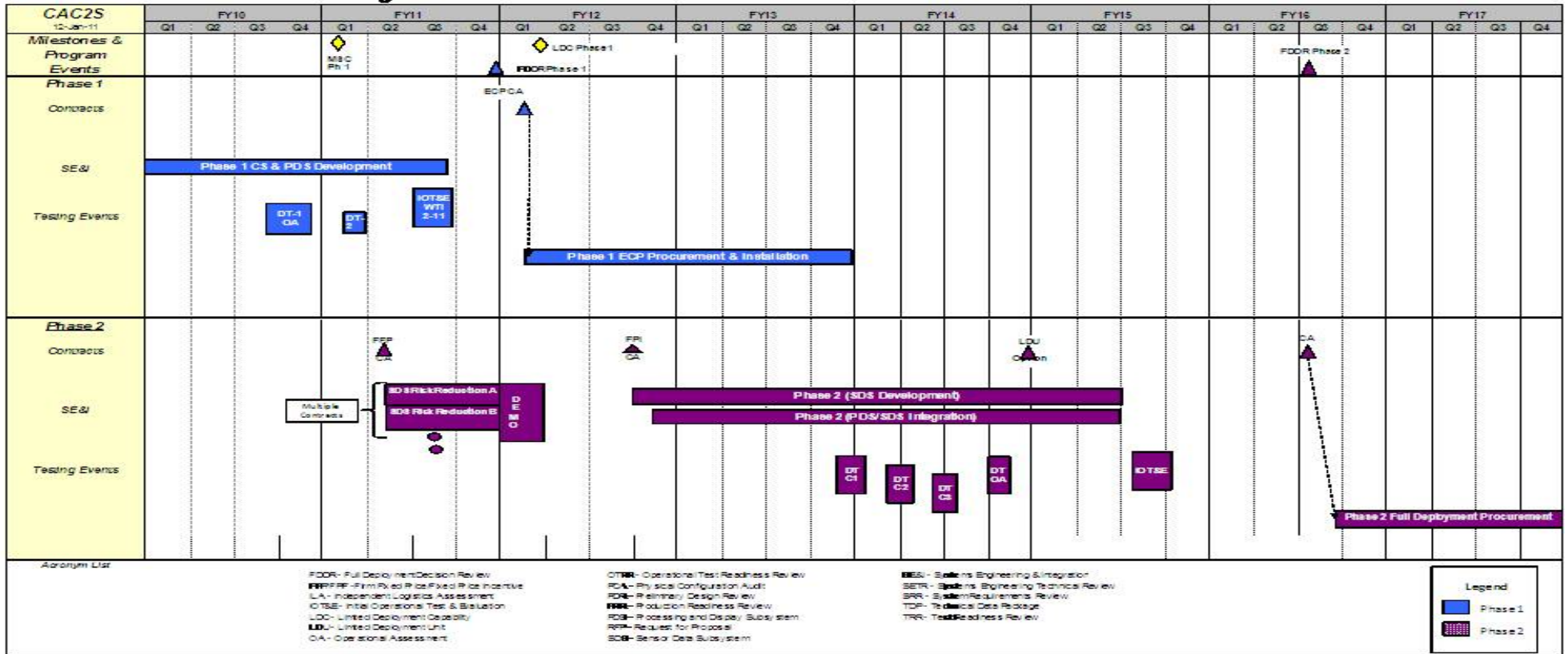
DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0206313M: Marine Corps Comms Systems

PROJECT
 2273: Air Ops Cmd & Control (C2) Sys

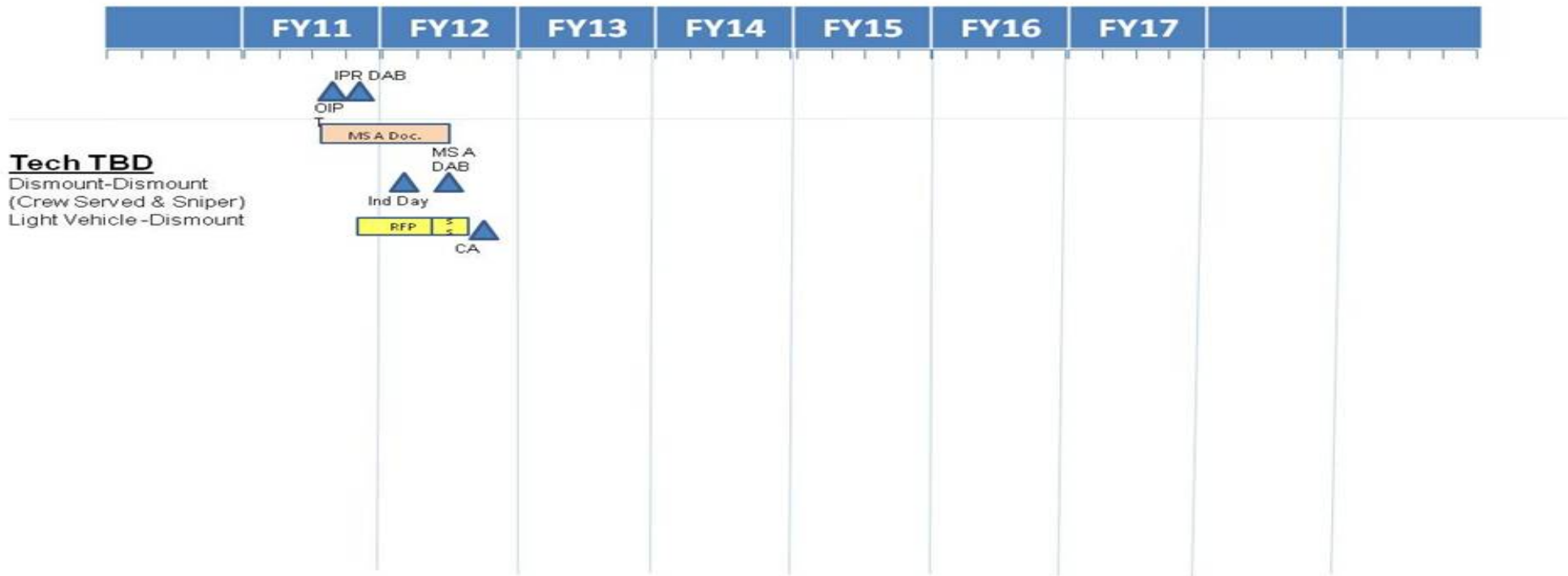
CAC2S Program Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2273: <i>Air Ops Cmd & Control (C2) Sys</i>

JCTI-G SCHEDULE



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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2273: <i>Air Ops Cmd & Control (C2) Sys</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2273				
MACCS Sustainment	1	2011	4	2014
MACCS - TACC ADSI Software v. 14	4	2011	4	2012
MACCS - TACC ADSI Software v. 15	2	2013	2	2013
CTN IOC	2	2011	2	2011
CTN FOC	1	2016	1	2016
CAC2S Milestone C (completed 1st Qtr FY08; rescinded as of Dec 2009)	1	2011	1	2011
CAC2S Phase 1 IOT&E	3	2011	3	2011
CAC2S Phase 1 LDC	1	2012	1	2012
CAC2S Phase 2 IOT&E	3	2015	3	2015
CAC2S Phase 2 LDU	4	2014	4	2014
COC Operational Sustainment	1	2011	4	2016
COC (V)1 Field User Evaluation (FUE)	3	2012	3	2012

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>				PROJECT 2274: <i>Command & Control Warfare Sys</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2274: <i>Command & Control Warfare Sys</i>	19.071	26.091	32.052	-	32.052	35.427	17.772	15.555	15.887	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

COUNTER RADIO-CONTROLLED IMPROVISED EXPLOSIVE DEVICE (RCIED) ELECTRONIC WARFARE (USMC CREW) Systems are modular, programmable, multi-band radio-frequency jammers designed to deny enemy use of selected portions of the radio frequency spectrum to counter Radio-Controlled IEDs. CREW mounted systems are capable of being integrated into all Marine Corps Tactical Ground Vehicles. Increments 2.1 CREW Vehicle Receiver/Jammer (CVRJ) mounted and 3.1 Thor III man portable systems are being fielded to meet current threats in all theaters of operation. The 2.1 mounted systems are being upgraded to a Band C capability beginning in FY11. Increment 3.3 (mounted, dismounted and fixed site) systems shall function as a single integrated system with common architecture that will counter the continued evolution of enemy threats FY13 - FY17. This program is an ongoing effort to develop new techniques, improve capabilities, enhance software and develop waveform load sets to counter evolving threats and prevent technology obsolescence.

GROUND-BASED OPERATIONAL SURVEILLANCE SYSTEM (GBOSS). G-BOSS is a ground-based persistent surveillance sensor package with multiple detection and assessment capabilities comprised of four main components: trailer-mounted elevation platform, multi-spectral sensor suite, ground control station and remote ground control station. Daylight color imagery and Infrared imagery (StarSafire III and T-3000), Unattended ground sensors (UGS), Tactical Remote Sensor System(TRSS), Radar (MSTAR), Communication suite Wireless Point to Point Link (WPPL) and Unmanned aerial vehicle interface (VideoScout).

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: *USMC CREW - Product Development	3.808	3.508	1.575	-	1.575
Articles:	0	0	0		0
FY 2011 Accomplishments:					
In FY11 USMC CREW continued development of waveform/load sets to support the CREW 2.1 CVRJ (mounted), CREW 3.1 Thor III (dismounted) systems and vehicle installation kits (VIKs) for additional vehicle platforms. In addition the program supported the development of waveform/loadsets and VIKs for the CREW 2.1 CVRJ Band C upgrade kits scheduled for procurement in 4th quarter FY11.					
FY 2012 Plans:					
In FY12 USMC CREW will continue to develop waveform/load sets for the mounted CREW 2.1 CVRJ (V1) and 2.1 CVRJ Band C Upgrade kits (V2); the dismounted CREW 3.1 Thor III; and the Universal Test Sets (UTS) which support each system variant (procured via Joint Improvised Explosive Device Defeat Organization (JIEDDO) and transitioned to USMC for sustainment in FY11). In addition, the program will continue to develop					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2274: <i>Command & Control Warfare Sys</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<p>vehicle installation kits for the Band C Upgrade in order to support the integration and installation of the upgrade kits into Marine Corps vehicle platform. Lastly, the program will provide support for waveform/loadsets for Marine Expeditionary Unit Special Operations Capable (MEU (SOC)) systems being fielded in FY11 in support of an Urgent Statement of Need dated 17 May 2011.</p> <p>FY 2013 Base Plans: In FY13 the USMC CREW program will continue the development of waveform/load sets to support CREW Legacy systems (2.1 CVRJ V1 and V2 mounted and the 3.1 Thor III dismounted systems) and the UTS. In addition, the program will begin the development of waveform/loadsets for the increment 3.3 mounted, dismounted, and fixed site Low Rate Initial Production (LRIP) systems planned for award 4th Qtr FY13 in support of the Enduring Requirement to provide CREW systems to MEU/Marine Expeditionary Force (MEF) within a non-theater specific/non-wartime Operational TEMPO.</p>					
<p>Title: *USMC CREW - Support</p> <p align="right">Articles:</p>	2.806 0	3.848 0	3.772 0	-	3.772 0
<p>FY 2011 Accomplishments: Systems engineering and integration support required for continued enhancements to the Increment 2.1 (CREW 2.1 CVRJ V1 and Band C V2 mounted) and the 3.1 Thor III dismounted. In addition, support for the transition to the Enduring Requirement with fielding of the CVRJ systems to the Marine Expeditionary Unit (MEU) Special Operations Command (SOC) based upon Statement of Need (SON) dated 17 May 2011.</p> <p>FY 2012 Plans: Systems engineering and integration support required for continued system enhancements, for CVRJ with Band C, Thor III, and support for the the Universal Test Sets procured by JIEDDO and transitioned to USMC CREW in FY12.</p> <p>FY 2013 Base Plans: Systems engineering and integration support required for the CREW Legacy variants as well as the transition to the JCREW 3.3 mounted, dismounted and fixed site systems scheduled for 4th Qtr FY13.</p>					
<p>Title: *USMC CREW - Test and Evaluation</p> <p align="right">Articles:</p>	1.250 0	1.127 0	1.340 0	-	1.340 0
<p>FY 2011 Accomplishments:</p>					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2274: <i>Command & Control Warfare Sys</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Test events in support of enhancements to CREW 2.1 CVRJ (V1), the CVRJ Band C upgrade (V2), and the 3.1 Thor III systems. FY 2012 Plans: FY12 efforts include the required testing to support continued enhancements to CREW 2.1 CVRJ V1, CVRJ Band C (V2), and the 3.1 Thor III systems FY 2013 Base Plans: FY13 efforts encompass the continued test events in support of the CREW Legacy (2.1 and 3.1) systems, the Universal Test Set (UTS) and the transition to the JCREW 3.3 systems beginning 4th Qtr FY13.					
Title: *USMC CREW - Management <div style="text-align: right;">Articles:</div>	0.588 0	0.740 0	0.801 0	-	0.801 0
FY 2011 Accomplishments: Program oversight, task scheduling, reports and study analysis. FY 2012 Plans: Program oversight, task scheduling, reports and study analysis. FY 2013 Base Plans: Program oversight, task scheduling, reports and study analysis.					
Title: *GBOSS - Product Development <div style="text-align: right;">Articles:</div>	5.000 0	10.025 0	13.714 0	-	13.714 0
FY 2011 Accomplishments: Engineered designs for net centric capability (Cross Domain Solution, COC integration and DCGS-MC/DIB interface) and Technology Readiness Assessments, and integration of sensor enhancements per Acquisition Program CDD requirements (sniper detection, Short Wave IR, anomalous activity, etc.). FY 2012 Plans: Continue the Technology Readiness Assessments and integration of sensor enhancements per Acquisition Program CDD requirements (sniper detection, Short Wave IR, anomalous activity, etc.). FY 2013 Base Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy			DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2274: <i>Command & Control Warfare Sys</i>				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)						
		FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Continue the Technology Readiness Assessments and integration of sensor enhancements per Acquisition Program CDD requirements (sniper detection, Short Wave IR, anomalous activity, etc.).						
Title: *GBOSS - Support		1.712	1.711	2.737	-	2.737
Articles:		0	0	0		0
FY 2011 Accomplishments: Worked Information Assurance (IA) accreditation efforts, IA and software management, and the adjudication of fleet/user change requests and associated engineering for incorporation as system enhancements.						
FY 2012 Plans: Continue the IA accreditation efforts, IA and software management, adjudication of fleet/user change requests and associated engineering for incorporation as system enhancements.						
FY 2013 Base Plans: Continue the IA accreditation efforts, IA and software management, adjudication of fleet/user change requests and associated engineering for incorporation as system enhancements.						
Title: *GBOSS - Test and Evaluation.		0.900	4.274	4.349	-	4.349
Articles:		0	0	0		0
FY 2011 Accomplishments: Worked on testing G-BOSS version upgrades for technology evaluation design validation and CONOPS development.						
FY 2012 Plans: Continue testing G-BOSS version upgrades for technology evaluation design validation and CONOPS development.						
FY 2013 Base Plans: Continue testing G-BOSS version upgrades and participate in DT testing at Fort Huachuca and Camp Atterbury upgrades for technology evaluation design validation and CONOPS development.						
Title: *GBOSS - Management.		3.007	0.858	3.764	-	3.764
Articles:		0	0	0		0
FY 2011 Accomplishments:						

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2274: <i>Command & Control Warfare Sys</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Worked CO Site mitigation and system integration support.					
<i>FY 2012 Plans:</i> Provide design oversight, task scheduling, estimate development, reports and test support.					
<i>FY 2013 Base Plans:</i> Provide design oversight, task scheduling, estimate development, reports and test support for the program office.					
Accomplishments/Planned Programs Subtotals	19.071	26.091	32.052	-	32.052

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

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013 Base</u>	<u>FY 2013 OCO</u>	<u>FY 2013 Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• PMC 6520: <i>USMC CREW</i>	160.449	8.662	198.808	0.000	198.808	114.868	117.062	116.641	121.437	Continuing	Continuing
• PMC 6438: <i>GBOSS</i>	0.000	49.682	55.500	0.000	55.500	22.487	30.271	30.256	30.810	Continuing	Continuing
• PMC 7000: <i>USMC CREW SPARES</i>	0.000	0.000	1.537	0.000	1.537	11.042	11.239	15.365	13.668	Continuing	Continuing

D. Acquisition Strategy

Counter RCIED Electronic Warfare (USMC CREW). Designated an ACAT II program (Feb 2007). Increment 2.1 mounted and 3.1 dismounted systems provide enhanced protection to combat elements in vehicle platforms and on foot. These systems replace Increment 2.0 (Chameleon and Hunter). Increment 3.3 mounted, dismounted and fixed site systems will replace the 2.1 and 3.1 systems to counter the continued evolution of enemy threats FY13 - 17 in support of the Enduring Requirement (non-theater specific). The program will continue to develop new techniques, improve capabilities, enhance software and develop upgrades to counter evolving threats and prevent technology obsolescence. Activities include waveform development, non-recurring engineering for system enhancements, capability upgrades, and installation kits, integration of the enhancements/Vehicle Installation Kits (VIKs) and the tests/government studies required to support these changes.

GBOSS. The acquisition approach has been to use existing government contracts (US Navy, US Army, US Air Force) for Commercial-Off-the-Shelf (COTS) and Government-Off-the-Shelf (GOTS) material and services that meet the basic requirements of the UUNS and give priority to materials and services already integrated into an existing or similar architecture. In FY13, the acquisition approach will be to maintain NSWG Crane as the system integrator to leverage their engineering and contracting vehicles for product development and test and evaluation. This approach is the most expeditious to deliver equipment and services to the forces in theater.

E. Performance Metrics

Milestone Reviews

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2274: <i>Command & Control Warfare Sys</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
USMC CREW	SS/FFP	NAVSEA: BALTIMORE, MD	3.300	3.089	Dec 2011	1.146	Dec 2012	-		1.146	0.000	7.535	
USMC CREW	WR	SSC-A: CHARLESTON, SC	0.646	0.419	Dec 2011	0.429	Dec 2012	-		0.429	0.000	1.494	
GBOSS	WR	NSWC: CRANE, IN	7.115	8.674	Jan 2012	12.214	Nov 2012	-		12.214	Continuing	Continuing	Continuing
GBOSS	SS/FP	General Dynamics: MULTIPLE LOCATIONS	-	0.500	Mar 2012	0.300	Mar 2013	-		0.300	Continuing	Continuing	Continuing
GBOSS	C/CPFF	MCOTEA: QUANTICO, VA	-	0.051	Dec 2011	0.750	Dec 2012	-		0.750	Continuing	Continuing	Continuing
GBOSS	WR	NSWC: DAHLGREN, VA	-	0.500	Nov 2011	0.150	Nov 2012	-		0.150	Continuing	Continuing	Continuing
GBOSS	MIPR	CECOM: STAFFORD, VA	-	0.300	Jan 2012	0.300	Dec 2012	-		0.300	Continuing	Continuing	Continuing
Subtotal			11.061	13.533		15.289		-		15.289			

Remarks
 USMC CREW NAVSEA: FY11 - FY13 CREW will utilize Johns Hopkins University Applied Physics Laboratories to develop waveform load sets for all CREW Increment systems to continue to counter the evolving RCIED Threats.
 USMC CREW SSC-A (SPAWAR, Charleston): FY11 - FY13 CREW will utilize SSC-Atlantic to develop mounting solutions in order to integrate mounted systems into all Marine Corps Vehicle platforms
 GBOSS (NSWC Crane) Systems Integration/Product Development and Systems Engineering Support

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
USMC CREW	WR	NSWC: DAHLGREN, VA	0.249	1.090	Jan 2012	1.117	Jan 2013	-		1.117	0.000	2.456	
USMC CREW	C/FFP	MCSC: QUANTICO, VA	1.152	-		-		-		-	0.000	1.152	
GBOSS	WR	SPAWAR: CHARLESTON, SC	-	-		0.300	Jan 2013	-		0.300	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2274: <i>Command & Control Warfare Sys</i>
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Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
GBOSS	Various	NSWC:CRANE, IN	2.652	1.411	Nov 2011	2.437	Nov 2012	-		2.437	Continuing	Continuing	Continuing
USMC CREW	WR	NSWC:CRANE, IN	1.404	2.758	Jan 2012	2.655	Jan 2013	-		2.655	0.000	6.817	
GBOSS	C/FFP	DEMA:STAFFORD, VA	-	0.300	Apr 2012	-		-		-	Continuing	Continuing	Continuing
Subtotal			5.457	5.559		6.509		-		6.509			

Remarks
 USMC CREW MCSC: CEOss Contracts for a Life Cycle Cost Estimate and PM Subject Matter Expertise support
 USMC CREW NSWC CRANE: On and off-site direct Systems Engineering Support, RF Modeling and Simulation and Independent Verification and Validation (IV&V) support for all Increment Systems
 USMC CREW NSWC Dahlgren: RADHAZ (Radio Hazard) Studies, Safety and Configuration Management Support

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
GBOSS	Various	MCOTEA:QUANTICO, VA	-	-		0.349	Dec 2012	-		0.349	Continuing	Continuing	Continuing
USMC CREW	C/CPFF	MCOTEA:QUANTICO VA	0.283	0.287	Mar 2012	0.290	Mar 2013	-		0.290	0.000	0.860	
USMC CREW	PO	YPG:YUMA, AZ	0.967	0.840	Dec 2011	1.050	Dec 2012	-		1.050	0.000	2.857	
GBOSS	Various	NSWC:CRANE, IN	-	3.974	Jan 2012	3.500	Nov 2012	-		3.500	Continuing	Continuing	Continuing
GBOSS	MIPR	CECOM:STAFFORD, VA	-	0.300	Jan 2012	0.500	Jan 2013	-		0.500	Continuing	Continuing	Continuing
Subtotal			1.250	5.401		5.689		-		5.689			

Remarks
 USMC CREW MCOTEA - Provides OT/DT Oversight and support for Increment 3.3 systems (FY11, FY12 and FY13)
 USMC CREW YPG/EPG - Provides test ranges and results analysis for all increment systems
 USMC GBOSS - MCOTEA will provide oversight support for testing. NSWC, Crane will provide testing and evaluation per GBOSS CDD requirements.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2274: <i>Command & Control Warfare Sys</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
USMC CREW	C/FFP	MCSC:QUANTICO, VA	0.588	0.740	Jun 2012	0.801	Jun 2013	-		0.801	0.000	2.129	
GBOSS	Various	NSWC:CRANE, IN	4.187	0.858	Dec 2011	3.764	Nov 2012	-		3.764	Continuing	Continuing	Continuing
Subtotal			4.775	1.598		4.565		-		4.565			

Remarks
 USMC CREW MCSC: Provides Program Management Support to USMC CREW Program
 USMC GBOSS: Program Management Support to USMC GBOSS Program

Project Cost Totals	Total Prior Years Cost	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
	22.543	26.091	32.052	-	32.052			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy

DATE: February 2012

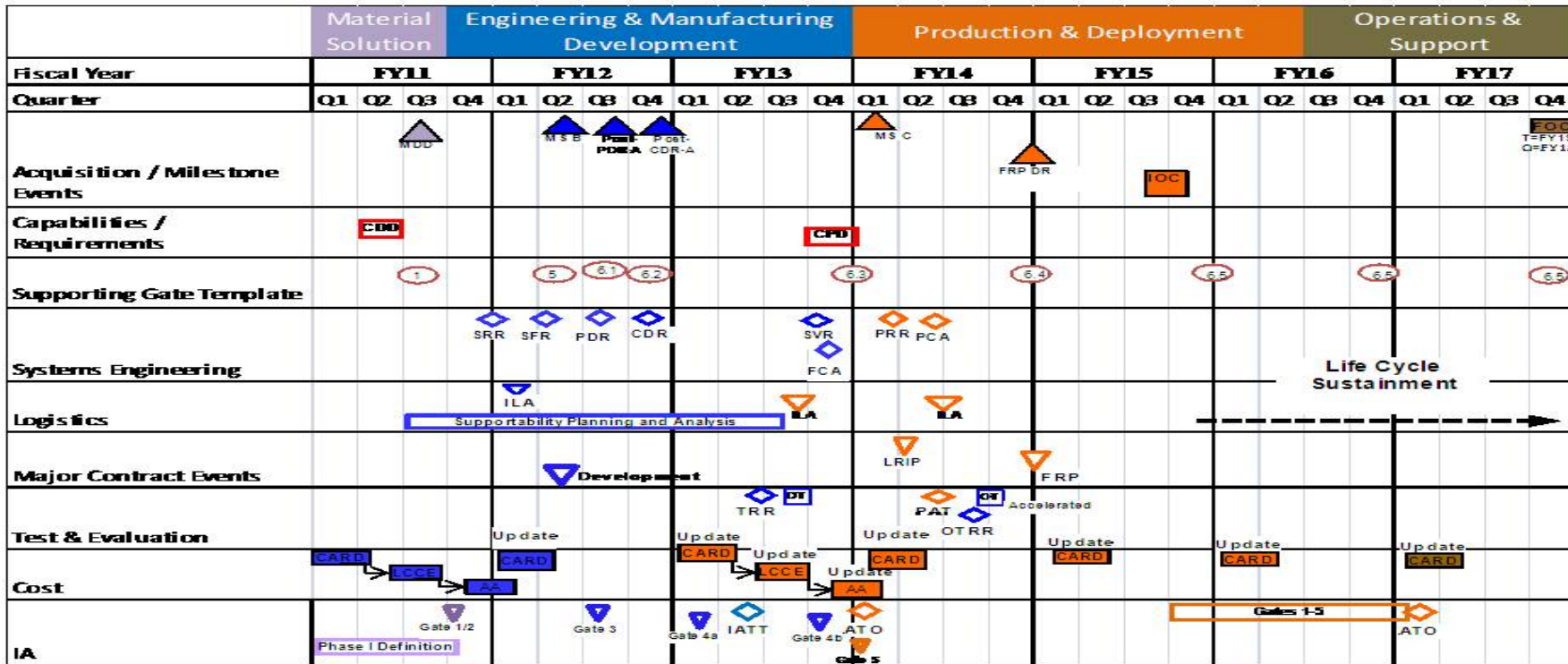
APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0206313M: Marine Corps Comms Systems

PROJECT
 2274: Command & Control Warfare Sys

MARINE CORPS SYSTEMS COMMAND
 EQUIPPING THE WARFIGHTER TO WIN

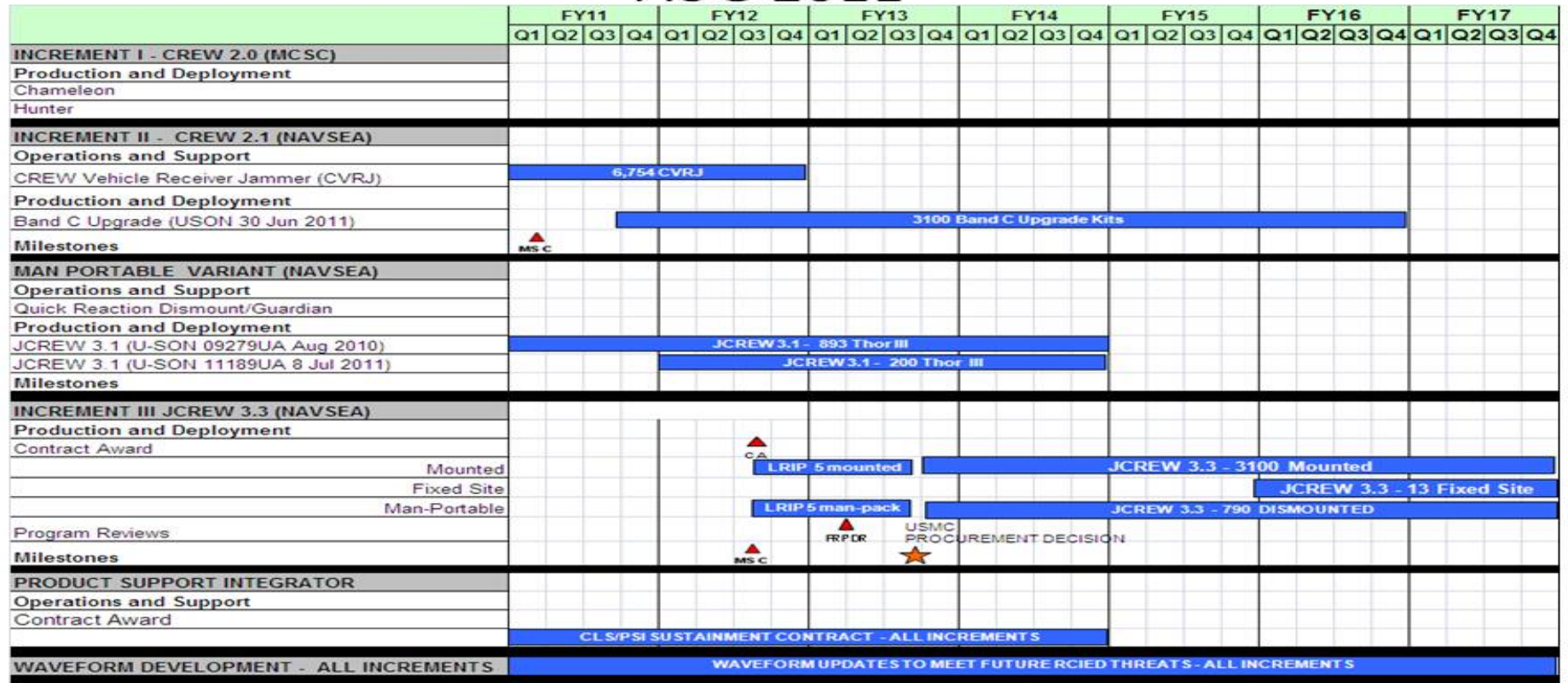
**GBOSS (E)
 Schedule**



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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2274: <i>Command & Control Warfare Sys</i>

USMC CREW ACQUISITION SCHEDULE AUG 2011



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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2274: <i>Command & Control Warfare Sys</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2274				
GBOSS(E) DT	3	2013	3	2013
GBOSS(E) Operational Testing	3	2014	4	2014
GBOSS(E) MILESTONE B	2	2012	2	2012
GBOSS(E) MILESTONE C	1	2014	1	2014
GBOSS(E) IOC	3	2015	3	2015
GBOSS(E) FULL RATE PRODUCTION DECISION	4	2014	4	2014
USMC CREW 2.1 Waveform Development	1	2011	4	2017
USMC CREW JCREW 3.3 Milestone C	3	2012	3	2012
USMC CREW 2.1 and JCREW 3.3 Program Support	1	2011	4	2014
USMC CREW JCREW 3.3 Procurement Decision	3	2013	3	2013

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2275: <i>Joint Tactical Radio System</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2275: <i>Joint Tactical Radio System</i>	1.850	4.964	4.413	-	4.413	25.309	9.817	3.901	6.066	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

(U) Tactical Satellite Comm Terminal (TSCT) - LIGHTWEIGHT MULTIBAND SATELLITE TERMINAL (LMST)/PHOENIX are quad-band Super High Frequency (SHF) satellite terminals mounted in transit cases and High Mobility Multipurpose Wheeled Vehicles (HMMWVs). With the signing of the SATCOM Collapse (20 May 2011) a dynamic transition will take place to consolidate (3) programs, Lightweight Multiband Satellite Terminal (LMST), Phoenix Tactical SHF Satellite Terminal (TSST), and the Very Small Aperture Terminal Large (VSAT-L) into (1) requirement defined as the Universal Satellite Access Tactical Terminal (UnSATT). RDT&E funding will be utilized to research/integrate Joint IP Modems as mandated by DISA to ensure interoperability during the transition process.

(U) Legacy Communications/Electronics Modifications and Sustainment (LEGACY): encompass post production sustainment of fielded tactical communication and networking systems and Service Life Extension Programs (SLEP) of aging communications equipment reaching the end of their life cycle. The post production sustainment provides necessary engineering and logistic support to maintain the existing operational capability above threshold operational readiness. The support provides equipment specialists, configuration management, supply support coordination and control, depot maintenance control and warranty administration. The AN/TSQ-227 Digital Technical Control (DTC) is undergoing a major refresh driven by Department of Defense (DoD)/Joint Interoperability Test Command (JITC) mandated interoperability and security requirements, which includes technology insertion and evolutionary equipment improvements as part of the SLEP effort. Additionally, the AN/TRC-170A Troposcatter Communications System is also undergoing a refresh/product improvement which brings the system from 1980s technology to the 21st century. R&D funds are required to certify the antenna replacement, and future funds are required to develop, test, and certify the movement of the current HMMWV-mounted radio shelter into a transit case solution.

(U) Command & Control On-the-move Network, Digital Over-the-horizon Relay (CONDOR): CONDOR capabilities material solution will be a coordinated effort with the Army's WIN-T program. A Marine Corps variant called Networking on the Move (NOTM) is currently being developed. The CONDOR funding line is funding the capability to allow tactical forces extended Beyond Line-of-Sight (BLOS) to maintain situational awareness by extending data network connectivity regardless of distance while on-the-move (OTM).

(U) Networking on the Move (NOTM): Networking-on-the-Move (NOTM) will provide Beyond Line of Sight (BLOS)/Line of Sight (LOS) transmission capability to the operating forces for network connectivity while on the move to enable access to Command and Control (C2) applications, streaming video and collaboration tools. NOTM will also provide remote and dynamic network management to eliminate the burden on end-users and incidental operators to perform technical functions. The NOTM proposed program of record will include vehicle integration kits, capable of being installed on existing and future vehicle platforms. NOTM will also include the software and hardware necessary to provide network management for all levels of the program. NOTM is being developed using an incremental approach where the first increment will provide capabilities to the Marine Expeditionary Unit (MEU) followed by additional capabilities and units. R&D funding will be used to develop the system and conduct development and operational testing to ensure all requirements are met.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2275: <i>Joint Tactical Radio System</i>
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(U) Very Small Aperture Terminal (VSAT) - VSAT provides beyond line-of-sight (BLOS), low-cost satellite communications to MAGTF commands at the Major Subordinate Commands to the Battalion levels. VSAT enables critical voice, video, and data for Command and Control (C2), Fires, Logistics, and Intelligence. VSAT fills a void of BLOS, high bandwidth capability throughout the Marine Air-Ground Task Force (MAGTF). The VSATs are currently Ku-band only, which requires commercial satellite connectivity. Future upgrades will utilize the military's Wideband Global Satellites to save on long-term O&M costs. Research and development work will need to be done to ensure that VSAT can transition from Ku to Ka-band.

Additionally, SATCOM Joint Interoperability as defined in Mil-Std-188-165B and DoD Policy "Transmission of Internet Protocol (IP) over DoD-Leased and DoD-owned transponded Satellite Communications Systems" of 10 Feb 06, is driving the requirement to update the VSATs. The Mil-Std and DoD policy deal with Satellite RF Modem Interoperability and require modems with Transmission Security (TRANSEC) and IP capabilities, respectively. R&D funds are needed to perform the development, test, and certification of terminal configurations that support these requirements. The Capabilities Production Document identifies the need for a lighter, more mobile satellite terminal for all echelons. This fact, coupled with the cancellation of the HC3 program, is driving the need to reduce terminal weight and to add X-band capability.

(U) Secure Mobile Anti-Jam Reliable Tactical-Terminal (SMART-T): SMART-T provides tactical users with protected data and voice via Extremely High Frequency (EHF) satellite communications. The SMART-T system is transported on High Mobility Multipurpose Wheeled Vehicles (HMMWVs), providing MAGTF Commanders a secure, survivable, long-haul, low/medium data rate communications link not subject to terrain masking and horizon limitations. The SMART-T is also capable of operation when removed from the HMMWV. SMART-T will be undergoing an upgrade to be interoperable with the new Advanced Extremely High Frequency (AEHF) constellation and will require certification testing and a Multi-service Operational Test and Evaluation (MOT&E).

(U) Tactical Communications Modernization (TCM): - Next generation solutions for the Warfighter due to urgent communications requirements and JTRS schedule delays.

- Represents procurements through the FYDP supporting the next generation IISR, wideband THHR, and AN/MRC-145 service life extension program
- RDTE funding is required to determine the optimal solution for the AN/MRC-145 service life extension program

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<p>Title: TCM - Next Generation IISR, Wideband THHR and AN/MRC-145 SLEP</p> <p style="text-align: right;">Articles:</p> <p>FY 2012 Plans: Next generation solutions for the Warfighter due to urgent communications requirements and continuing JTRS schedule delay - Represents procurements through the FYDP supporting the next generation IISR, wideband THHR, and AN/MRC-145 service life extension program - RDTE funding is required to determine the optimal solution for the AN/MRC-145 service life extension program</p> <p>FY 2013 Base Plans:</p>	-	0.440 0	0.562 0	-	0.562 0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012				
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT				
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	PE 0206313M: <i>Marine Corps Comms Systems</i>	2275: <i>Joint Tactical Radio System</i>				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Next generation solutions for the Warfighter due to urgent communications requirements and continuing JTRS schedule delay - Represents procurements through the FYDP supporting the next generation IISR, wideband THHR, and AN/MRC-145 service life extension program - RDTE funding is required to determine the optimal solution for the AN/MRC-145 service life extension program						
Title: NOTM: Test and Evaluation Support		-	0.200	0.350	-	0.350
		Articles:	0	0		0
FY 2012 Plans: Test and evaluation support of prototype systems and equipment.						
FY 2013 Base Plans: Continue test and evaluation support of prototype systems and equipment.						
Title: NOTM: Product Development		-	0.460	0.802	-	0.802
		Articles:	0	0		0
FY 2012 Plans: Proof of concept development.						
FY 2013 Base Plans: Proof of concept development.						
Title: NOTM: Engineering Program Support		-	0.603	1.922	-	1.922
		Articles:	0	0		0
FY 2012 Plans: Development efforts to include required acquisition documentation and technical support.						
FY 2013 Base Plans: Continue development efforts to include required acquisition documentation and technical support.						
Title: CONDOR: Technical, Engineering Support and Contract Advisory, Assistance Services		0.203	-	-	-	-
		Articles:				
FY 2011 Accomplishments: Technical, Engineering Support and Contract Advisory, Assistance Services.						
Title: LMST: Engineering Program Support		-	1.314	0.316	-	0.316

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012				
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT				
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	PE 0206313M: <i>Marine Corps Comms Systems</i>	2275: <i>Joint Tactical Radio System</i>				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<i>Articles:</i>			0	0		0
<i>FY 2012 Plans:</i> Funds for program support, MCOTEA travel to test events, and ECP development for the joint IP Modem upgrades for both the LMST and Phoenix programs.						
<i>FY 2013 Base Plans:</i> Continued program support, and MCOTEA travel to support certification testing and modem integration testing.						
<i>Title:</i> VSAT: Test and Evaluation Support		0.039	0.407	0.363	-	0.363
<i>Articles:</i>		0	0	0		0
<i>FY 2011 Accomplishments:</i> Continue Development and integration efforts along with Science & Technology engineering support for Very Small Aperture Terminal (VSAT).						
<i>FY 2012 Plans:</i> Continue Development and integration efforts, including DISA Modem Certification and engineering support for VSAT.						
<i>FY 2013 Base Plans:</i> Continue Development and integration efforts, including DISA Modem Certification and engineering support for VSAT.						
<i>Title:</i> LMST: Test and Evaluation Support		0.244	1.344	-	-	-
<i>Articles:</i>		0	0			
<i>FY 2011 Accomplishments:</i> Continue Science & Technology engineering support.						
<i>FY 2012 Plans:</i> Funds to support JITC certifications and modem integration testing for both the LMST and Phoenix programs.						
<i>Title:</i> Legacy Comm/Elec (Networks): Engineering Support for DTC		0.352	-	-	-	-
<i>Articles:</i>		0				
<i>FY 2011 Accomplishments:</i> Continue Engineering Support for Digital Technical Control and TRC-170.						
<i>Title:</i> Legacy Comm/Elec (Networks): Operational Support Test/Support for DTC		0.293	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2275: <i>Joint Tactical Radio System</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<i>Articles:</i>	0				
<i>FY 2011 Accomplishments:</i> Continued Operational Support Test/Support for DTC/TRC-170.					
<i>Title:</i> Legacy Comm/Elec: TRC-170 Test	0.719	-	-	-	-
<i>Articles:</i>	0				
<i>FY 2011 Accomplishments:</i> Testing of safety critical failures of TRC-170 antenna replacement.					
<i>Title:</i> SMART-T - Program Support	-	0.196	0.098	-	0.098
<i>Articles:</i>		0	0		0
<i>FY 2012 Plans:</i> Provide Science & Technology Engineering support for Secure, Mobile, Anti-jam, Reliable Tactical Terminal (SMART-T).					
<i>FY 2013 Base Plans:</i> Provide Science & Technology Engineering support for Secure, Mobile, Anti-jam, Reliable Tactical Terminal (SMART-T).					
Accomplishments/Planned Programs Subtotals	1.850	4.964	4.413	-	4.413

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PMC/4633001: <i>Tactical Satellite LMST</i>	4.631	17.389	1.418	4.591	6.009	1.444	1.470	1.493	1.511	0.000	36.710
• PMC/4633002: <i>Legacy Communications Electronics</i>	31.208	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	39.578
• PMC/4633003: <i>Very Small Aperture Terminal (VSAT)</i>	44.038	16.000	0.500	17.800	18.300	13.688	5.814	1.526	1.537	0.000	171.643
• PMC/4633004: <i>TCM</i>	71.179	84.450	61.683	4.937	66.620	85.694	94.182	47.728	11.530	0.000	621.259
• PMC/4633005: <i>SMART-T</i>	0.000	1.665	1.263	2.200	3.463	0.928	1.424	1.649	1.053	0.000	20.816
• PMC/700000: <i>SMART-T Spares</i>	0.178	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.198

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2275: <i>Joint Tactical Radio System</i>
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C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PMC/4633006: <i>AN/TRC-170</i>	0.000	25.136	0.000	3.000	3.000	2.992	5.979	7.464	9.206	0.000	53.777

D. Acquisition Strategy

(U) D. ACQUISITION STRATEGY:

(U) Tactical Satellite Comm Terminal (TSCT) - LIGHTWEIGHT MULTIBAND SATELLITE TERMINAL (LMST)/PHOENIX: With the signing of the SATCOM Collapse (20 May 2011) a dynamic transition is about to take place which will consolidate (3) programs, Lightweight Multiband Satellite Terminal (LMST), Phoenix Tactical SHF Satellite Terminal (TSST), and the Very Small Aperture Terminal Large (VSAT-L) into (1) requirement defined as the Universal Satellite Access Tactical Terminal (UnSATT). The acquisition strategy for the Lightweight Multi-band Satellite Terminal (LMST) and Phoenix program is to sustain terminals to maintain joint interoperability through FY17.

(U) Legacy Communications/Electronics Modifications and Sustainment (LEGACY): Provide continuous sustainment support to fielded equipment and implemented Service Life Extension Programs for equipment reaching its end of life supportability.

(U) Command & Control On-the-move Network, Digital Over-the-horizon Relay (CONDOR): Evaluate prototype hardware.

(U) Networking on the Move (NOTM): Develop on-the-move capabilities and integrate with at-the-halt network and legacy communications equipment.

(U) Very Small Aperture Terminal (VSAT): provides beyond line-of-sight (BLOS) satellite communications throughout the MAGTF. Multiple VSAT configurations provide the capability to tailor satellite communications to the lowest echelon. The VSATs are currently Ku-band only which requires commercial satellite connectivity. Future upgrades will utilize the military's Wide-band Global Satellites Ka-band capability to reduce long term O&M costs associated with commercial bandwidth. R&D work is necessary to ensure the successful transition from Ku to Ka-band. R&D funds will also be used to develop and test an X-band capability for the VSAT Terminals. Additional R&D funding will allow for further development of more capable modems which will provide higher capacity through-put and Transmission Security (TRANSEC).

(U) Secure Mobile Anti-Jam Reliable Tactical-Terminal (SMART-T): AEHF capability upgrade requires MCSC to modify SMART-T terminals with AEHF upgrade kits and replace the AN/PSQ-17 planning tool by purchasing the Tactical Computer Digital Mission Planner, AN/PYQ-19, through PM WIN-T.

(U) Tactical Communications Modernization (TCM): - Provides for the testing and evaluation of next generation tactical radio systems supporting the AN/MRC-145 service life extension program.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2275: <i>Joint Tactical Radio System</i>

E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2275: <i>Joint Tactical Radio System</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
NOTM Development	C/FFP	QNA:Stafford, VA	-	0.460	Dec 2011	0.802	Dec 2012	-		0.802	0.000	1.262	
CONDOR Development	SS/FFP	MITRE ,CECOM:Ft. Monmouth, NJ	6.970	-		-		-		-	0.000	6.970	
Subtotal			6.970	0.460		0.802		-		0.802	0.000	8.232	

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
NOTM Engineering Support	FFRDC	MITRE:Stafford, VA	-	0.203	Jan 2012	0.784	Jan 2013	-		0.784	0.000	0.987	
VSAT Development and Integration	FFRDC	MITRE:Stafford, VA	4.337	-	Jan 2012	0.293	Jan 2013	-		0.293	0.000	4.630	
LMST Contractor Support	FFRDC	MITRE:Stafford, VA	0.265	2.658	Mar 2012	0.316	Mar 2013	-		0.316	0.000	3.239	
LCE (Networks) Support	C/FFP	QNA:Stafford, VA	2.376	-		-		-		-	0.000	2.376	
NOTM Contract Support	C/FFP	QNA:Stafford, VA	-	0.400	Mar 2012	1.138	Mar 2013	-		1.138	0.000	1.538	
VSAT Contractor Support	C/FFP	QNA:Stafford, VA	0.043	-		-		-		-	0.000	0.043	
LCE (TRC-170A) Support	FFRDC	MITRE, CECOM:Fort Monmouth, NJ	0.500	-		-		-		-	0.000	0.500	
SMART-T Contractor Support	C/FFP	QNA:Stafford, VA	-	0.196	Mar 2012	0.098	Mar 2013	-		0.098	0.000	0.294	
Subtotal			7.521	3.457		2.629		-		2.629	0.000	13.607	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
VSAT Test Support	MIPR	JITC:Ft. Huachuca, AZ	-	0.407	Mar 2012	0.070	Mar 2013	-		0.070	0.000	0.477	
NOTM Test Support	MIPR	MCTSSA:Camp Pendleton, CA	-	0.200	Dec 2011	0.350	Dec 2012	-		0.350	0.000	0.550	
LCE (Networks) Test Support	MIPR	MCOTEA/ JITC:Quantico, VA	0.978	-		-		-		-	0.000	0.978	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy										DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT					
1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development				PE 0206313M: Marine Corps Comms Systems				2275: Joint Tactical Radio System					
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
TCM Next Generation IISR	C/FFP	MCSC:Quantico, VA	-	0.440	Mar 2012	0.562	Mar 2013	-		0.562	0.000	1.002	
LCE (TRC-170A)	WR	MCOTEA:Quantico, VA	0.253	-		-		-		-	0.000	0.253	
Subtotal			1.231	1.047		0.982		-		0.982	0.000	3.260	
			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			15.722	4.964		4.413		-		4.413	0.000	25.099	
<u>Remarks</u>													

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy

DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY

1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE

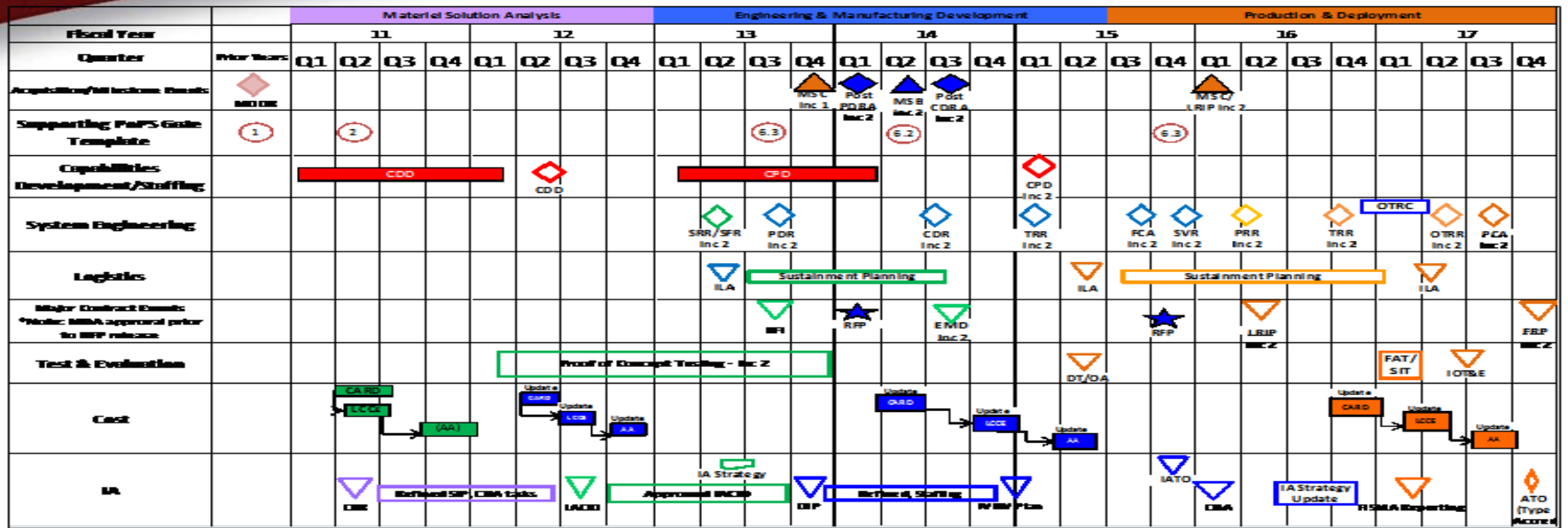
PE 0206313M: Marine Corps Comms Systems

PROJECT

2275: Joint Tactical Radio System

MARINE CORPS SYSTEMS COMMAND
 EQUIPPING THE WARFIGHTER TO WIN

NOTM Schedule



Legend

- ◆ MDA Decision Approval (non-MS)
- ◆ Milestone / Key Acquisition Event
- ◆ Review
- ◆ Assessments, Proposals
- ◆ Documentation

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0206313M: Marine Corps Comms Systems
PROJECT 2275: Joint Tactical Radio System	

SMART-T Program Schedule

	FY10		FY11				FY12				FY13				FY14				FY15				FY16				FY17											
	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	Q1	Q2	Q3	Q4								
ARHF	XDR CAPABILITY AVAILABLE																																					
SATELLITE LAUNCH	SV-1 Launch (14Aug)						SV-2 Launch (Feb 12)		SV-3 Launch (Oct 12)		AOC																											
TESTING	SV-1 MDT Test SV-200 Test (May-Jul 12) XDR OUE MDTAE																																					
MFESW	Inc 4 Release		Inc 5 Release		Inc 5 OTP Entry		Inc 7 Release																															
AN/FYQ-19 OUE	PROCUREMENT DECISION		TIMSS CA Jun 11		FIELDING DECISION		Oct/Nov 2011																															
TRAINING (PLANNING TIME)	Phase I Training (Fl. Goal w/ 2 weeks long) 16Oct-27Nov-22Jan-26Feb-15Apr-8May-3Jun-8Jul-8Aug-9Sep																																					
ARHF UPGRADES/FIELDING	(5) II MEF (5) II MEF (8) I MEF (8) I MEF (5) III MEF (5) III MEF (6) IV MEF March 2012																																					

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0206313M: Marine Corps Comms Systems	PROJECT 2275: Joint Tactical Radio System

VSAT Program Schedule

Fiscal Year	Engineering & Manufacturing Development				Production & Deployment				Operations & Support													
	Prior Years	11		12		13		14			15			16			17					
Quarter		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
Acquisition/ Milestone Events	★ FRP			Fielding Decision VSATL	△ VSATL IOC	★ FRP/Fielding Ka-Band VSATL	△ VSATL/M IOC		△ FOC													
Supporting POPS Gate Template			6.4			5.3																
Requirements Document				LOC																		
System Engineering	PCA Confidence Builder	▼ FCA		PCA SEP Waiver					△ Tech Refresh (JIPM)												△ Tech Refresh	
Logistics	▼ ILA ▼ MPTA/P	▼ ILA	▼ ISMP	▼ MPTA/P Update	▼ VSATL Contract				ISIMP Update	ISIMP Update	ISIMP Update	ISIMP Update	ISIMP Update	ISIMP Update	Sustainment ILA						▼ ISMP	
Major Contract Events <i>Note: MDA approval prior to RFP release</i>	▼ VSAT Large Contract				▼ ILS Contract																	
Test & Evaluation	ARSTRAT Army TSC-155 Testing Integrated Test Plan USMC Delta Transport ICTD JITC/DICE	ARSTRAT Army TSC-155 Testing Integrated Test Plan USMC Delta Transport ICTD JITC/DICE		ATO	ICD Init.			GAT				△ JITC					△ JITC				△ JITC	
Cost		Update CARD	Update CARD	Update CARD	Update CARD				Update CARD	Update CARD	Update CARD	Update CARD	Update CARD	Update CARD	Update CARD	Update CARD	Update CARD	Update CARD	Update CARD	Update CARD	Update CARD	Update CARD
IA	IA Gate 1&2	IA Gate 3		IA Gate 4&5	IA Annual Review				IA Annual Review	IA Gate 1&2	IA Gate 3	IA Gate 4&5	IA Cert	IA Annual Review	IA Annual Review	IA Annual Review	IA Annual Review	IA Annual Review	IA Annual Review	IA Annual Review	IA Annual Review	IA Annual Review

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2275: <i>Joint Tactical Radio System</i>

LMST

EVENTS	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17
BCA (MITRE)	████████████████████							
Contract Expiration		△						
Contract Award			△					
IP Modem ECP				△	██			
Reset/MW S	████████████████████							
Sustainment/Support	██							

Phoenix

EVENTS	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17
PNPT Fielding		████████████████						
JITC Certifications				△				
Master Work Schedule	██							
Terminals Fielding (7)		██████████						
Fielding 4 terminals		██████████						
Sustainment	██							
IP ECP				△				
RFMOW				▲				
IP/NCW Test/Integration			████████████████					

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2275: <i>Joint Tactical Radio System</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2275				
LMST BCA	1	2011	1	2011
LMST Contract Expiration	4	2011	4	2011
LMST Joint IP Modem Upgrades	2	2013	4	2017
LMST Reset/MWS	1	2011	4	2011
LMST Sustainment/Support	1	2011	4	2017
LMST Contract Award	1	2012	1	2012
LMST (Phoenix) Joint IP Modem Upgrades	1	2012	4	2013
LMST (Phoenix) JITC Certifications	4	2013	4	2013
LMST (Phoenix) Master Work Schedule	1	2011	4	2017
LMST (Phoenix) PNPT Fielding	3	2011	2	2012
LMST (Phoenix) Terminals Fielding	1	2011	2	2011
LMST (Phoenix) Sustainment	1	2011	4	2017
VSAT ARSTRAT, ICTO, JITC Testing	1	2011	1	2011
VSAT Government Acceptance Testing	2	2012	4	2012
VSAT Large Fielding Decision	4	2011	4	2011
VSAT Large IOC	1	2012	1	2012
VSAT Large Fielding	1	2012	2	2012
VSAT Ka-band FRP/Fielding	3	2012	3	2012
VSAT Small/Medium IOC	1	2013	1	2013
VSAT JITC Test Event (DICE 3)	4	2013	4	2013
VSAT JIPM Upgrade	2	2013	3	2013

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2275: <i>Joint Tactical Radio System</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
VSAT Ka-band FOC	4	2013	4	2013
VSAT Tech Refresh	4	2016	4	2016
SMART-T SV-1 On Orbit Test	4	2011	1	2012
SMART-T Fielding Conference I MEF	1	2012	1	2012
SMART-T AEHF Planning Tool Fielding Decison	1	2012	1	2012
SMART-T Increment 5 Release	2	2012	2	2012
SMART-T Operational User Evaluation	1	2012	1	2012
SMART-T Phase 1 Training (Backwards compatibility)	1	2012	2	2013
SMART-T SV-2 Launch	2	2012	2	2012
SMART-T Fielding Conference II MEF	2	2012	2	2012
SMART-T Phase 2 Training	2	2013	4	2015
SMART-T SV-2 On Orbit Test	3	2012	4	2012
SMART-T Planning Tool Fielding	3	2012	4	2015
SMART-T AEHF Terminal Fielding	3	2012	4	2015
SMART-T Multi-service Operational Test & Evaluation	3	2012	2	2013
SMART-T SV-3 Launch	1	2013	1	2013
NOTM CDD Development	1	2011	1	2012
NOTM CARD/LCCE/Affordability Assessment	2	2011	1	2012
NOTM MS C Increment 1	4	2013	4	2013
NOTM Proof of Concept Testing Increment 2	1	2012	4	2013
NOTM PDR Increment 2	3	2013	3	2013
NOTM Post PDR Assessment Increment 2	1	2014	1	2014
NOTM MS B Increment 2	2	2014	2	2014
NOTM EMD RFI	3	2013	3	2013
NOTM EMD RFP	1	2014	1	2014

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2275: <i>Joint Tactical Radio System</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
NOTM EMD Contract Award	3	2014	3	2014
NOTM LRIP Increment 2 RFP	4	2015	4	2015
NOTM LRIP Increment 2 Contract Award	2	2016	2	2016
NOTM LRIP Increment 2 FRP	4	2017	4	2017

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>				PROJECT 2276: <i>Comms Switching and Control Sys</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2276: <i>Comms Switching and Control Sys</i>	4.106	3.979	8.327	-	8.327	10.336	9.295	7.759	5.103	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

(U) Network Planning & Management (NPM), formerly Joint Network Management System (JNMS), is a portfolio of communications planning and Network Management applications for use throughout the Marine Air-Ground Task Force (MAGTF). NPM includes the Systems Planning Engineering and Evaluation Device (SPEED). NPM provides the MARFOR (Marine Forces) component planners with the ability to conduct high-level planning; detailed planning and engineering; monitoring; control and reconfiguration; and spectrum planning and management in support of Combatant Commander (COCOM) and Commander, Joint Task Force (CJTF) operations. SPEED provides High Frequency (HF) predictions, Line of Site (LOS) propagation, Radio Coverage Analysis (RCA), Satellite planning, Command and Control Personal Computer (C2PC) track interface, interference and de-confliction analysis, spectrum management, Radio Guard Charts, Comm-On-The-Move (COTM), and T/E (training & education) and force structure management.

(U) Transition Switch Module (TSM): consists of three systems that provide a flexible Unit Level Switch that replaces legacy Tri-Tac switches with current commercial technology, providing maneuver elements with improved voice/data switching, data transport and bandwidth management capabilities. This program maintains USMC joint interoperability as all Services transition to Commercial Off-The-Shelf (COTS) switching technologies.

(U) Expeditionary Command and Control Suite (ECCS): Will provide reach back capability to the Global Information Grid (GIG) to access the Defense Switch Network (DSN), Defense Information System Network (DISN) Secret Internet Protocol Router Network (SIPRNET), Non-secure Internet Protocol Router Network (NIPRNET), and DISN Video Services (DVS), enabling a small advance force/liaison team to communicate with a Marine Air-Ground Task Force (MAGTF), Joint Task Force (JTF) or other Joint Force Commander, and to maintain situational awareness.

(U) Tactical Data Network (TDN) Gateway (GW): The TDN GW is a shelter system mounted on a Heavy-High Mobility Multipurpose Wheeled Vehicle (H-HMMWV) and is the data communication connection between external and internal Marine Air-Ground Task Force (MAGTF) networks. It provides the Wide Area Network (WAN) connection point and is the hub of the Local Area Network (LAN) architecture. The LAN is extended via the Data Distribution System (DDS), which is the TDN server variant of the TDN GW. TDN GWs and DDSs provide data transfer and switching services, subscriber access and mobile host support. A GW can operate from the SENSITIVE BUT UNCLASSIFIED (SBU) up to the SECRET level and contains an integral NSA Type 1 Inline Network Encryption (INE) device capable of supporting tunneling.

(U) Tactical Data Network (TDN) Data Distribution System - Modular (DDS-M): The DDS-M provides the commander a modular, integrated, and interoperable Internet Protocol (IP)- based LAN and WAN data networking capability that forms the data communications backbone and data communications support to organizations within a MAGTF. The DDS-M provides extension of the Defense Information System Network (DISN), Secret Internet Protocol Router Network (SIPRNet), and Sensitive But Unclassified (SBU) Non-secure Internet Protocol Router Network (NIPRNet) as well as a Coalition networking capability and access to strategic, supporting

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2276: <i>Comms Switching and Control Sys</i>
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establishments, joint and other service component tactical data networks for Marine Corps Tactical Data Systems (TDSs) and other DDS-Ms. The DDS-M provides Marine Corps maneuver elements with a modular and scalable IP data transport capability that will replace, supplement and be used with existing legacy data systems through the integration of computers, routers, data switches and cabling, Enhanced Position Location and Reporting System (EPLRS) radio net interface units, MODEMS, link encryption devices, and patch panels. Uninterrupted Power Supplies (UPS) provide for emergency power and continuity of operations. The DDS-M can operate from the SBU up to the TOP SECRET (TS)/SENSITIVE COMPARTMENTED INFORMATION (SCI) level and contains integral In-line Network Encryption (INE) device supporting IP Security (IPSec) and Virtual Private Networking (VPN).

(U) Warfighter Network Tactical (WFN-T): WFN-T is a portfolio of systems of tactical network programs. Starting In FY 2012, WFN-T is broken out into three separate programs: TDN DDS-M, TDN Gateway, and Joint Enhanced Core Communications System (JECCS). WFN-T provides a standard data and voice architecture for voice, Secret Internet Protocol Router Network (SIPRNet), Non-Classified Internet Protocol Router Network (NIPRNet), coalition, data, and video services that is interoperable with Joint communications systems. Specifically, it provides interoperability with Defense Information Systems Agency (DISA) net-centric Global Information Grid (GIG) convergence architecture, provides network optimization (accelerators) to best utilize precious satellite and terrestrial bandwidth, replaces copper and fiber optic cable infrastructure assemblies that are outdated, provides Voice over Internet Protocol (VoIP) that efficiently shares the IP transport data, and provides multi-level security cross-domain solutions mandated by the DISA GIG IP convergence (black core).

(U) Joint Enhanced Core Communications System (JECCS): Formerly known as First In Command and Control System (FICCS). JECCS is the Joint Task Force (JTF) enabler "first in" integrated, processor-controlled communications and management system that provides C2 capabilities supporting a Marine Expeditionary Unit (MEU) deployment ashore of the early phases of a deployment by a larger command element such as a Marine Air-Ground Task Force (MAGTF) or JTF Commander's mission into an Area of Operation. The JECCS is easily scalable and capable of "fly-away" deployment. It is a system of systems composed of Commercial Off-the-Shelf (COTS) and Government Off-the-Shelf (GOTS) equipment. It provides the primary interface between subscriber equipment/systems and the long-haul multi-channel transmission systems. The JECCS facilitates secure and non-secure voice and data communications, switching functions, network routing, and management functions. The JECCS augments the current and planned communications architectures and provides technical control and network management services for the broad range of switching and radio connectivity requirements.

(U) Digital Technical Control (DTC): DTC and other communications are a switch network infrastructure which provides voice, SIPR, NIPR, coalition, data, and video services. DTC provides the deployed warfighter with a standard data and voice architecture that is interoperable with joint and other services' communications systems. Prior to FY 2012, funding for DTC was included in PU C2275, Legacy Communications/Electronics.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: TSM: Engineering and Program Support	0.100	0.500	0.317	-	0.317
Articles:	0	0	0		0
FY 2011 Accomplishments: Continue engineering and program support efforts.					
FY 2012 Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012				
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT				
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	PE 0206313M: <i>Marine Corps Comms Systems</i>	2276: <i>Comms Switching and Control Sys</i>				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Continue engineering and program support efforts. FY 2013 Base Plans: Continue engineering and program support efforts.						
Title: TSM: Technology Insertion FY 2011 Accomplishments: Technology insertion continued development, increment III. FY 2012 Plans: Technology insertion continued development, increment IV.	Articles:	0.212 0	0.775 0	-	-	-
Title: WFN-T: Engineering Support and Prototype Development FY 2011 Accomplishments: Continue FY10 efforts for increments III and IV.	Articles:	1.927 0	-	-	-	-
Title: WFN-T: Test and Evaluation Support FY 2011 Accomplishments: Continued test and evaluation of WFN-T efforts.	Articles:	0.150 0	-	-	-	-
Title: DDS-M: Test and Evaluation Support FY 2012 Plans: JITC Joint Interoperability Testing and MCOTEA participation in DT events; First Article Testing (FAT) and Systems Integration Testing (SIT) in support of independent user evaluations. FY 2013 Base Plans: Continue JITC Joint Interoperability Testing and MCOTEA participation in DT events; First Article Testing (FAT) and Systems Integration Testing (SIT) in support of independent user evaluations.	Articles:	-	0.380 0	0.510 0	-	0.510 0
Title: DDS-M Program Management Support FY 2012 Plans:	Articles:	-	1.266 0	1.444 0	-	1.444 0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy			DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT				
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	PE 0206313M: <i>Marine Corps Comms Systems</i>	2276: <i>Comms Switching and Control Sys</i>				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Program management support for DDS-M systems. FY 2013 Base Plans: Continue program management support for DDS-M systems.						
Title: DDS-M: Program Engineering Support Articles:		-	0.514 0	0.517 0	-	0.517 0
FY 2012 Plans: Program engineering support for DDS-M systems. FY 2013 Base Plans: Continue program engineering support for DDS-M systems.						
Title: NPM: SPEED, CEOI development and Pub 8 compliance Articles:		1.344 0	0.505 0	0.978 0	-	0.978 0
FY 2011 Accomplishments: Continue with SPEED v11.X testing, release, fielding and award. FY 2012 Plans: Continue future enhancements to software to maintain relevancy with emerging communication technology. FY 2013 Base Plans: Continue future enhancements to software to maintain relevancy with emerging communication technology.						
Title: ECCS: Test and Evaluation Support Articles:		0.373 0	-	0.409 0	-	0.409 0
FY 2011 Accomplishments: Continue test and evaluation support. FY 2013 Base Plans: Continue test and evaluation support.						
Title: ECCS: Engineering and Program Support Articles:		-	0.038 0	0.934 0	-	0.934 0
FY 2012 Plans:						

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2276: <i>Comms Switching and Control Sys</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Continue engineering and program efforts. FY 2013 Base Plans: Continue engineering and program efforts.					
Title: ECCS: Product Development Articles:	-	-	0.770 0	-	0.770 0
FY 2013 Base Plans: Development on JIPM, ARSTRAT, and IA certifications.					
Title: JECCS: Engineering and Program Support Articles:	-	-	0.077 0	-	0.077 0
FY 2013 Base Plans: Continue program support for development and testing efforts.					
Title: JECCS: Test and Evaluation Support Articles:	-	-	0.040 0	-	0.040 0
FY 2013 Base Plans: Continue upgrade/refresh testing of JECCS-R systems.					
Title: DTC: Test and Evaluation Support Articles:	-	-	0.151 0	-	0.151 0
FY 2013 Base Plans: Provide support for T&E efforts.					
Title: DTC: Engineering and Development Support Articles:	-	0.001 0	2.180 0	-	2.180 0
FY 2012 Plans: Continue engineering program support efforts.					
FY 2013 Base Plans: Continue engineering program support efforts.					
Accomplishments/Planned Programs Subtotals	4.106	3.979	8.327	-	8.327

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2276: <i>Comms Switching and Control Sys</i>
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C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2011	FY 2012	FY 2013	FY 2013	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Cost To	
			Base	OCO	Total					Complete	Total Cost
• PMC/4634-1: <i>TSM</i>	1.850	15.780	0.000	22.100	22.100	0.000	0.000	0.000	0.000	0.000	146.348
• PMC/4634-2: <i>ECCS</i>	0.415	0.000	0.300	0.000	0.300	4.777	12.657	10.423	0.000	0.000	38.436
• PMC/4634-4: <i>WFN-T</i>	21.217	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	107.379
• PMC/4634-5: <i>DDS-M</i>	0.000	98.153	32.353	0.000	32.353	56.073	50.931	40.436	41.007	0.000	318.953
• PMC/4634-6: <i>DTC</i>	0.000	20.134	3.295	0.000	3.295	8.981	1.070	3.484	7.352	0.000	44.316
• PMC/4634-7: <i>JECCS</i>	0.000	0.000	5.200	0.000	5.200	5.192	1.746	1.776	9.913	0.000	23.827
• PMC/4630-1: <i>TSM</i>	0.000	0.000	0.000	0.000	0.000	22.117	0.000	0.000	0.000	0.000	22.117

D. Acquisition Strategy

(U) Transition Switch Module (TSM): calls for the identification, integration, and testing of commercial switching technologies of sufficient maturity to improve system performance or meet emerging user requirements. Seeks commercial solutions that are fully compatible and interoperable with other Communication Networking Systems (CNS) programs that are fielded and/or being fielded e.g., DTC, TDN, Joint Enhanced Core Communication System (JECCS) etc.

(U) Network Planning and Management (NPM), formerly Joint Network Management Systems (JNMS): The NPM acquisition strategy emphasizes the use of Commercial Off-The-Shelf (COTS) and Government Off-The-Shelf (GOTS) products. The USMC GOTS SPEED acquisition strategy is for spiral development with the goal of releasing one new version of software annually. The SPEED contract method is through a sole source Blanket Purchase Agreement (BPA) using Fixed Price Task Orders based on the developer's GSA schedule for man-hours.

(U) Expeditionary Command and Control Suite (ECCS): will use the evolutionary acquisition strategy and pursue a competitive firm fixed price contract. Major concerns will be interoperability and compatibility with existing systems and components. R&D effort will focus on integrating and testing 'miniaturized' versions of existing components. Emerging technologies such as VoIP and Secure Wireless will also be addressed in the out year R&D effort. R&D funding drops as system goes into production.

(U) Tactical Data Network (TDN): is an evolutionary acquisition strategy. As new products and industry standards are produced, they are to be tested and integrated into TDN equipment. RDTE funding is required to test and evaluate Commercial Off-The-Shelf (COTS) items which will be integrated into TDN Gateways and Data Distribution Systems (DDS) to fulfill Operational Requirements Document (ORD) requirements. FY10 and FY11 funding for TDN is included in the WFN-T line.

(U) TDN Data Distribution System - Modular (DDS-M): is an evolutionary acquisition strategy that will modify existing and legacy programs to add emerging capabilities for interoperability. The tenets of the WFN-T acquisition strategy are Commercial Off-The-Shelf (COTS) and Government Off-The-Shelf (GOTS), firm fixed-price competitive contracts for material solutions to meet emerging requirements. WFN-T may reuse other Services' development and ride external contracts that satisfy requirements and analysis of alternatives.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2276: <i>Comms Switching and Control Sys</i>

(U) Joint Enhanced Core Communications System-Refresh (JECCS-R): The JECCS-R acquisition strategy is based upon an evolutionary acquisition where most components are Commercial Off-the-Shelf (COTS). As an evolutionary acquisition, the JECCS will continue to be upgraded and improved as technology advances. Software version upgrades will be included. COTS and GOTS will be used to the maximum extent possible. The task order recipient will be responsible for updating the JECCS-R system operations and maintenance manual, which provides an integrated view of the equipment and interoperation of all components.

(U) Digital Technical Control (DTC): is an evolutionary acquisition strategy. As new products and industry standards are produced, they are to be tested and integrated into DTC equipment. Major concerns will be interoperability and compatibility with existing systems and components in the Marine Corps, as well as Joint and Coalition forces. R&D effort will focus on developing and integrating improved versions of existing components, while working toward the end-state of IPV6.

E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2276: <i>Comms Switching and Control Sys</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
ECCS JIPM, ARSTRAT	C/FFP	US Army, CECOM:Aberdeen, MD	7.231	-		0.555	Jan 2013	-		0.555	0.000	7.786	
ECCS IA Certifications	Reqn	MCOTEA:Quantico, VA	6.412	-		0.215	Dec 2012	-		0.215	0.000	6.627	
NPM (SPEED S/W Development)	C/FFP	MCSC, Northrop Grumman:VA, FL	7.329	0.505	Mar 2012	0.978	Jan 2013	-		0.978	0.000	8.812	
TSM DITS-H Development	SS/FFP	MCSC, ITT:VA, SC	1.140	0.775	Mar 2012	-		-		-	0.000	1.915	
Subtotal			22.112	1.280		1.748		-		1.748	0.000	25.140	

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
ECCS Engineering Support	FFRDC	US Army, MITRE:Stafford, VA	-	0.038	Jan 2012	0.534	Jan 2013	-		0.534	0.000	0.572	
DTC Engineering Supportq	FFRDC	US Army, MITRE:Stafford, VA	-	0.001	Jan 2012	2.180	Jan 2013	-		2.180	0.000	2.181	
ECCS Engineering Support	WR	MCTSSA:Camp Pendleton, CA	-	-		0.100	Dec 2012	-		0.100	0.000	0.100	
TSM Engineering Support	FFRDC	US Army, MITRE:Stafford, VA	0.526	0.500	Jan 2012	0.317	Jan 2013	-		0.317	0.000	1.343	
WFN-T Engineering Support	FFRDC	US Army, MITRE:Stafford, VA	1.882	-		-		-		-	0.000	1.882	
DDS-M Engineering Support	SS/FFP	US Army, MITRE:Stafford, VA	-	0.514	Jan 2012	0.517	Jan 2013	-		0.517	0.000	1.031	
Subtotal			2.408	1.053		3.648		-		3.648	0.000	7.109	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
ECCS T&E	WR	MCOTEA:VA	-	-		0.315	Jan 2013	-		0.315	0.000	0.315	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2276: <i>Comms Switching and Control Sys</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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				
ECCS T&E	MIPR	JITC:Ft. Huachuca, AZ	-	-		0.094	Jan 2013	-		0.094	0.000	0.094		
DTC T&E	MIPR	JITC:Ft. Huachuca, AZ	-	-		0.151	May 2013	-		0.151	0.000	0.151		
WFN-T T&E	MIPR	JITC:Ft. Huachuca, AZ	0.900	-		-		-		-	0.000	0.900		
DDS-M T&E	WR	MCOTEA:VA	-	0.300	Mar 2012	0.300	Mar 2013	-		0.300	0.000	0.600		
DDS-M T&E	MIPR	JITC:Ft. Huachuca, AZ	-	0.080	May 2012	0.210	May 2013	-		0.210	0.000	0.290		
Subtotal			0.900	0.380		1.070		-		1.070	0.000	2.350		

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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				
ECCS Program Support	C/FFP	MCSc, QinetiQ:VA	-	-		0.300	Mar 2013	-		0.300	0.000	0.300		
JECCS Program Support	C/FFP	MCSC, QinetiQ:VA	-	-		0.117	Mar 2013	-		0.117	0.000	0.117		
DDS-M Program Support	C/FFP	MCSC, QinetiQ:VA	-	1.266	Mar 2012	1.444	Mar 2013	-		1.444	0.000	2.710		
Subtotal			-	1.266		1.861		-		1.861	0.000	3.127		

Project Cost Totals	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	25.420	3.979		8.327		-		8.327	0.000	37.726	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy

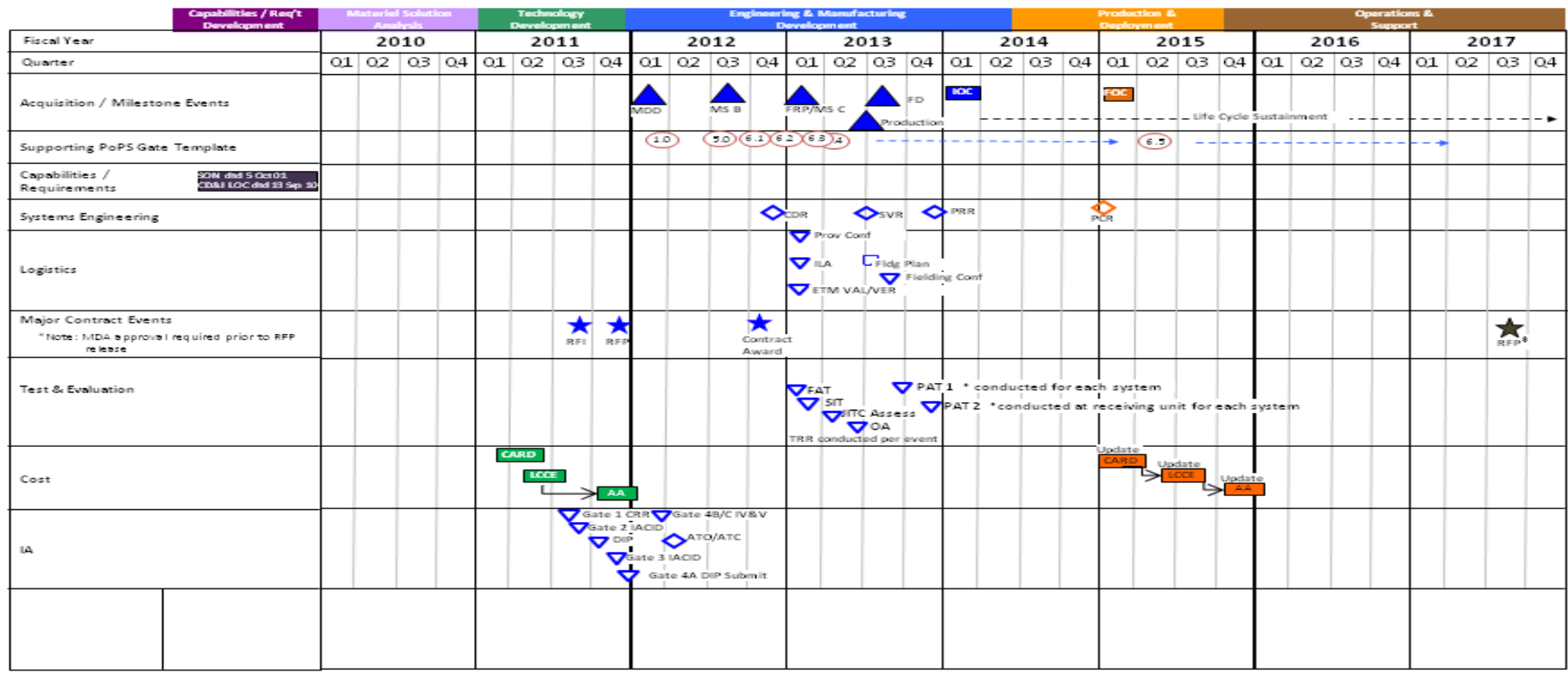
DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0206313M: Marine Corps Comms Systems

PROJECT
 2276: Comms Switching and Control Sys

JECCS Program Schedule



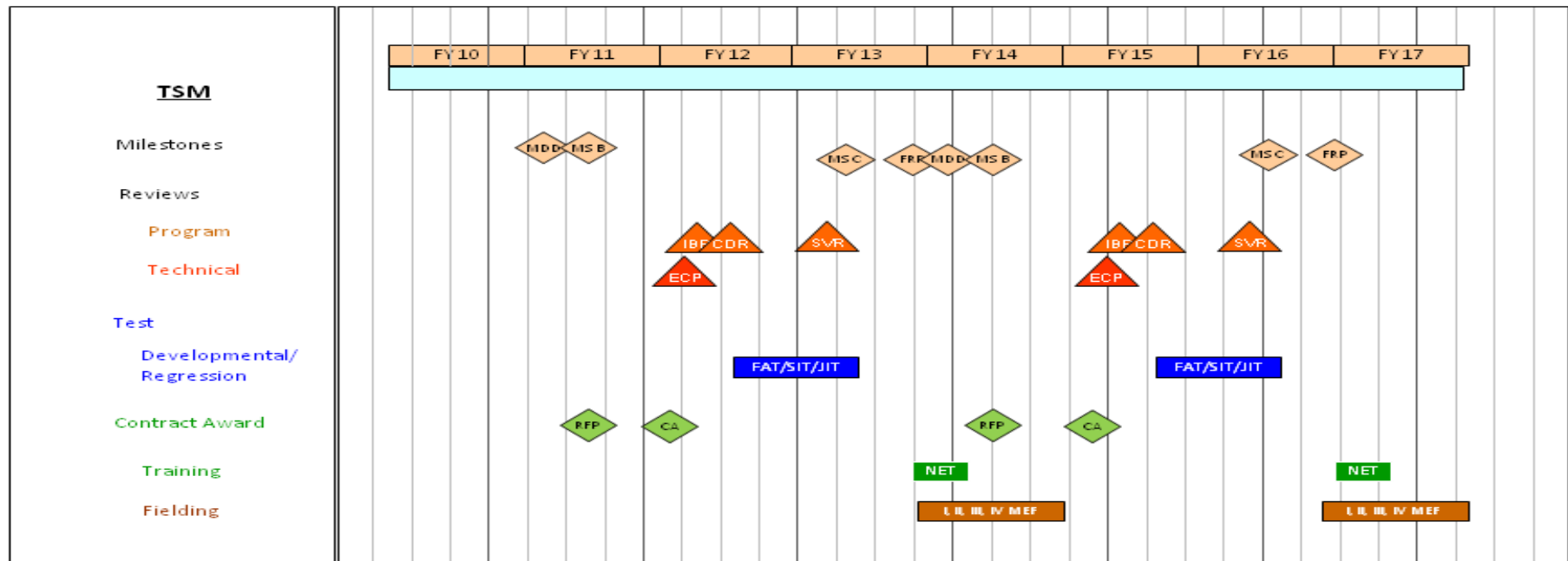
Legend: ★ MDA Decision Approval (non-MC) ◆ Review ■ Documentation ▲ Milestone / Key Acquisition Event ▼ Assessments, Proposals

APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0206313M: Marine Corps Comms Systems

PROJECT
 2276: Comms Switching and Control Sys

TSM Program Schedule



* Every three years technology insertions require a new MDD

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2276: <i>Comms Switching and Control Sys</i>

CLASSIFICATION (U)



ECCS Program Schedule

Fiscal Year	FY10				FY11				FY12				FY13				FY14				FY15				FY16				FY17			
	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	Q1	Q2	Q3	Q4
Acquisition / Milestone Events	AoS Approval				MDO, AS/AP, APB				MS C/FRP				FD, IOC				Life Cycle Sustainment				FOC											
Supporting PoPS Gate Template					(6.4)												(6.5)															
Capabilities / Requirements	CPD O&O, CONOPS				LOC																											
Systems Engineering					TRA				FCA/SVR																							
Logistics					ILA, ISMP/A				ILA, PCA, MTP																							
Major Contract Events <small>*Note: MDA approval required prior to RFP release</small>					RFI, AWARD				DO1				DO2				DO3				DO4											
Test & Evaluation					TEMP				VT, VVT Report																							
Cost	PDR, ROM				CARD, LCOE, IAA								Update CARD, Update LCOE, Update IAA																			
IA					IA Strategy, CRP, IACID				Gate 3 DIACAP Docs, Gate 4 IV&V				IATD, IATT, ATO				FISMA Reporting															

★	MDA Decision Approval (AoS-MS)	◆	Review	■	Documentation
▲	Milestone / Key Acquisition Event	▼	Assessments, Proposals		

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy

DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY

1319: Research, Development, Test & Evaluation, Navy
BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE

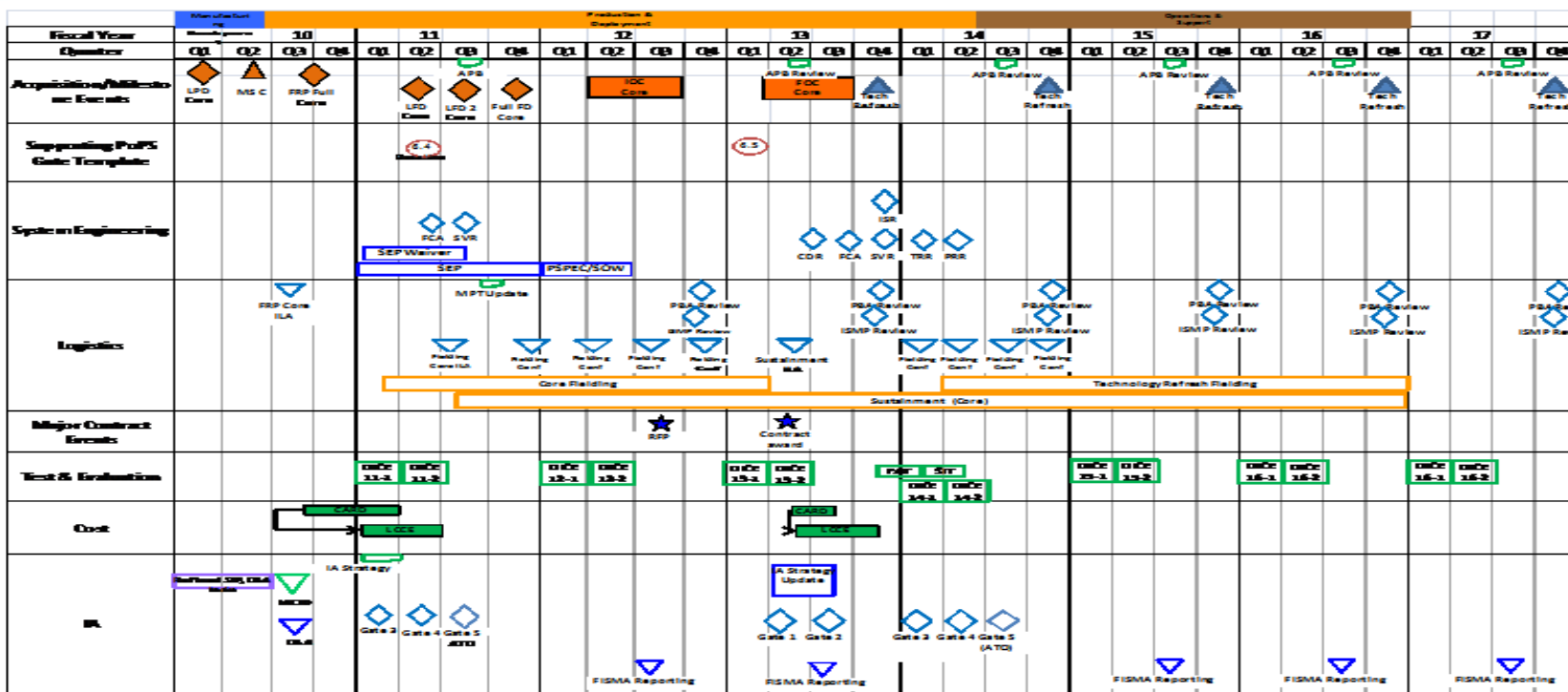
PE 0206313M: Marine Corps Comms Systems

PROJECT

2276: Comms Switching and Control Sys



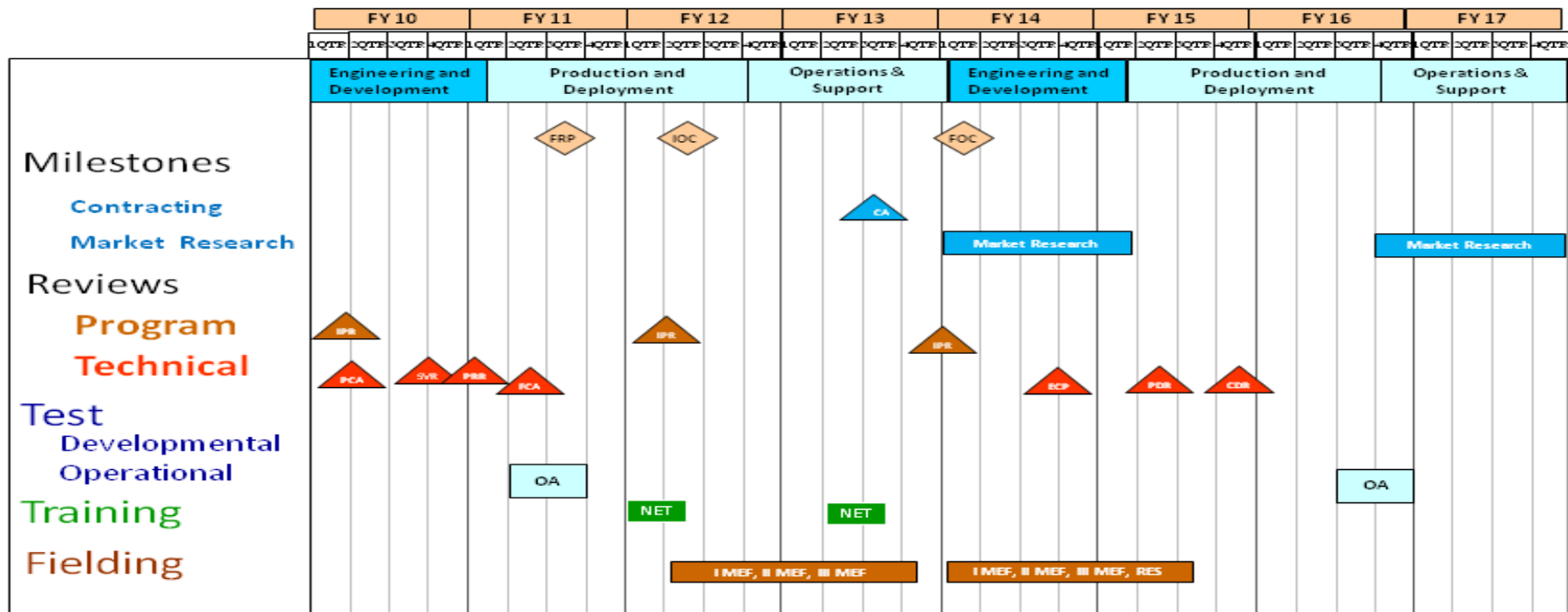
Program Schedule DDS-M Core



- Legend
- ★ MDA Decision Approval (non-MS)
 - ▲ Milestone / Key Acquisition Event
 - ◆ Review
 - Documentation
 - ▼ Assessments, Proposals

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0206313M: Marine Corps Comms Systems	PROJECT 2276: Comms Switching and Control Sys

DTC-R Program Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy

DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0206313M: Marine Corps Comms Systems

PROJECT
 2276: Comms Switching and Control Sys

NPM Program Schedule

Fiscal Year	10				11				12				13				14				15				16				17							
Quarter	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	Q1	Q2	Q3	Q4				
Acquisition/Milestone Events																																				
Supporting PoPS Gate Template					6.5																															
System Engineering	IPR	IPR	IPR	IPR	IPR	IPR	IPR	IPR	IPR	IPR	IPR	IPR	IPR	IPR	IPR	IPR	IPR	IPR	IPR	IPR	IPR	IPR	IPR	IPR	IPR	IPR	IPR	IPR	IPR	IPR	IPR	IPR	IPR	IPR	IPR	IPR
Logistics																																				
Major Contract Events									★ RFP				★																							
Test & Evaluation	IPR V11.0 FAT 10.0				IPR V11.0 FAT V 11.0				IPR V11.X FAT V 11.X				IPR V11.X FAT V 11.X				IPR V11.X FAT V 11.X				IPR V11.X FAT V 11.X				IPR V11.X FAT V 11.X				IPR V11.X FAT V 11.X				IPR V11.X FAT V 11.X			
IA																																				

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2276: <i>Comms Switching and Control Sys</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2276				
TDN DDS-M Core Modules - Fielding	1	2011	1	2013
TDN DDS-M Core Modules - IOC	2	2012	3	2012
TDN DDS-M - Core Modules - FOC	1	2013	3	2013
TDN DDS-M - Recompete RFP	3	2012	3	2012
TDN DDS-M - Contract Award	2	2013	2	2013
TDN DDS-M - Tech Refresh/Fielding	2	2014	4	2016
NPM/SPEED IPR (one per quarter)	1	2011	4	2017
NPM/SPEED Fielding - Ver 11.0	4	2011	4	2011
NPM/SPEED Fielding - Ver 11.1	2	2012	2	2012
NPM/SPEED Fielding - Ver 11.X (one new version per FY)	2	2013	2	2017
NPM/SPEED RFP	1	2012	1	2012
NPM/SPEED Contract Award	1	2013	1	2013
NPM/SPEED Developmental Test - PAT (1st QTR each FY)	1	2011	1	2017
NPM/SPEED Operational Test - FAT 1 (1st QTR each FY)	1	2011	1	2017
NPM/SPEED ATO for 11.0	3	2011	3	2011
NPM/SPEED ATO for 11.1	1	2012	1	2012
NPM/SPEED ATO for 11.X	2	2013	2	2013
ECCS RFI	4	2011	4	2011
ECCS MDD	3	2011	3	2011
ECCS RFP Release	1	2012	1	2012
ECCS MS C/FRP	1	2012	1	2012

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2276: <i>Comms Switching and Control Sys</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
ECCS Contract Award	1	2012	1	2012
ECCS Verification Test	3	2012	4	2012
ECCS FCA	4	2012	4	2012
ECCS PCA	4	2012	4	2012
ECCS Fielding Decision	4	2012	4	2012
DTC-R FCA	2	2011	2	2011
DTC-R OA	2	2011	3	2011
DTC-R Full Rate Production	3	2011	3	2011
DTC-R NET	1	2012	2	2013
DTC-R IOC	2	2012	2	2012
DTC-R Refresh Fielding	2	2012	2	2015
DTC-R FOC	1	2014	1	2014
DTC-R Market Research	1	2014	1	2015
DTC-R PDR	2	2015	2	2015
DTC-R CDR	4	2015	4	2015
JECCS CARD	1	2011	2	2011
JECCS LCCE	2	2011	3	2011
JECCS Affordability Assessment (AA)	4	2011	1	2012
JECCS RFI	3	2011	3	2011
JECCS RFP	4	2011	4	2011
JECCS MDD	1	2012	1	2012
JECCS MS B	3	2012	3	2012
JECCS FRP/MS C	1	2013	1	2013
JECCS Production Decision	2	2013	2	2013
JECCS Fielding Decision	3	2013	3	2013

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2276: <i>Comms Switching and Control Sys</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
JECCS IOC	1	2014	1	2014
JECCS FOC	1	2015	1	2015
JECCS CDR	4	2012	4	2012
JECCS SVR	2	2013	2	2013
JECCS PRR	4	2013	4	2013
JECCS PDR	1	2015	1	2015
JECCS FAT/SIT	1	2013	1	2013
JECCS JITC/Operational Assessment	2	2013	2	2013
JECCS PAT 1	3	2013	3	2013
JECCS PAT 2	4	2013	4	2013
TSM MDD Technology Insertion 1	1	2011	1	2011
TSM MS B Technology Insertion 1	2	2011	2	2011
TSM RFP Technology Insertion 2	2	2011	2	2011
TSM Contract Award Technology Insertion 2	1	2012	1	2012
TSM IBR	2	2012	2	2012
TSM CDR	3	2012	3	2012
TSM FAT/SIT/JITC Technology Insertion 1	3	2012	2	2013
TSM SBR	2	2013	2	2013
TSM MS C Technology Insertion 1	2	2013	2	2013
TSM FRP Technology Insertion 1	4	2013	4	2013
TSM MDD Technology Insertion 2	1	2014	1	2014
TSM MS B Technology Insertion 2	2	2014	2	2014
TSM MS C Technology Insertion 2	3	2016	3	2016
TSM FRP Technology Insertion 2	1	2017	1	2017
TSM RFP Increment x	2	2014	2	2014

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2276: <i>Comms Switching and Control Sys</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
TSM Contract Award Increment x	1	2015	1	2015
TSM Fielding Technology Insertion 2	3	2013	4	2014

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>				PROJECT 2277: <i>System Engineering and Integration</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2277: <i>System Engineering and Integration</i>	5.405	9.575	6.171	-	6.171	6.366	6.450	6.537	6.573	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 funds for engineering, test, and evaluation activity, which ensures that the systems being developed within the Program Element (PE) employ consistent standards for interoperability and, to the maximum extent feasible, use hardware and software which is uniform and standard across programs. Marine Air-Ground Task Force Command, Control, Communications, Computers, and Intelligence Systems Engineering and Integration, and Coordination. (MAGTF C4I SEI&C) provides for the centralized planning and execution of Marine Corps Enterprise Information Technology and National Security Systems. It develops, certifies, and manages the configurations of the Marine Corps Enterprise

Systems and Technical Architecture products and uses these to support enterprise-level systems engineering. It supports unified technical representation to joint and coalition communities for Marine Corps Systems and provides top-tier system engineering support to address system of systems technical issues. It is used to conduct direct Marine Expeditionary Unit/Marine Expeditionary Force (MEU/MEF) support in system integration testing with USN. This is part of Deploying Group Systems Integration Testing (DGSIT) and workups supporting Marine Expeditionary Force (MEF) deployments. It is also used to support Marine Corps systems coordination and involvement in DoD initiatives to include ForceNet, Global Information Grid Enterprise Services (GIGES), and other Deployable Information Systems Architecture DISA/NETWARCOM efforts.

Joint Distributed Engineering Plant (JDEP) directly supports DoD mandated directive CJCSI 6212.01F, to evaluate the interoperability of the holistic Marine Air Ground Task Force (MAGTF) Command Control Communications Intelligence (C4I) Capability produced by Marine Corps Systems Command (MARCORSYSCOM). This evaluation will be accomplished via the MAGTF C4I Capability Certification (MC3) process. Using MC3, composite capabilities are evaluated for their collective interoperability with joint forces; support integration of emergent systems with systems already fielded, and to conduct critical engineering analysis capable of isolating and correcting capability deficiencies and optimize system of systems performance.

Joint Interoperability of Tactical Command and Control Systems (JINTACCS) is a Joint Chiefs-of-Staff (JCS)/DoD-mandated program for joint development, implementation, and testing of tactical datalinks and US Message Text Format (MTF) under the direction of the Defense Information Systems Agency (DISA) and Office of the Secretary of Defense/Networks and Information Integration (OASD/NII) per the Commander Joint Chiefs of Staff (CJCSI) 6610.01C and CJCS16241.04 for US Military Tactical Forces (USMTF).

Marine Air-Ground Task Force Command, Control, Communications, Computers, and Intelligence Systems Engineering and Integration, and Coordination. (MAGTF C4I SEI&C) provides for the centralized planning and execution of Marine Corps Enterprise Information Technology and National Security Systems. It develops, certifies, and manages the configurations of the Marine Corps Enterprise Systems and Technical Architecture products and uses these to support enterprise-level systems engineering. It supports unified technical representation to joint and coalition communities for Marine Corps Systems and provides top-tier system engineering support to address system of systems technical issues. It is used to conduct direct Marine Expeditionary Unit/Marine Expeditionary Force (MEU/MEF) support in

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2277: <i>System Engineering and Integration</i>
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system integration testing with USN. This is part of Deploying Group Systems Integration Testing (DGSIT)) and workups supporting Marine Expeditionary Force (MEF) deployments. It is also used to support Marine Corps systems coordination and involvement in DoD initiatives to include ForceNet, Global Information Grid Enterprise Services (GIGES), and other Deployable Information Systems Architecture DISA/NETWARCOM efforts.

Expeditionary Energy Office (E2O): Energy is a top priority for the USMC as stated by the Commandant, and in support of this priority, he created the USMC Expeditionary Energy Office (E2O), with the mission to analyze, develop, and direct the Marine Corps' energy strategy in order to optimize expeditionary capabilities across all warfighting functions. E2O's role is to advise the Marine Requirements Oversight Council (MROC) on all energy and resource related requirements, acquisitions, and programmatic decisions. This office and funding will support the USMC Energy Strategy, which is the framework for the Marine Corps that communicates the Commandant's vision, mission, goals and objectives for expeditionary and installations energy. Additionally, this funding will enable execution of the USMC Energy Strategy Implementation Guidance which identifies specified tasks and responsibilities and timeframes for achievement. These two documents align the Marine Corps with operational energy management and strategy requirements established in the National Defense Authorization Act 2009, DoD directives and SECNAV goals. This funding will support the office's requirements for technical, programmatic, and administrative support.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<p>Title: Expeditionary Energy Office (E2O)</p> <p align="right">Articles:</p> <p>FY 2012 Plans: Funds provide Expeditionary "Smart" Power Grids, Expeditionary Alternative (PV Solar) Energy Systems and Alternative (Bio) fuels to analyze, develop, and direct the Marine Corps' energy strategy in order to optimize expeditionary capabilities across all warfighting functions. Additionally, this funding will enable execution of the USMC Energy Strategy Implementation Guidance which identifies specified tasks and responsibilities and timeframes for achievement. These two documents align the Marine Corps with operational energy management and strategy requirements established in the National Defense Authorization Act 2009, DoD directives and SECNAV goals. This funding will support the office's requirements for technical, programmatic, and administrative support."</p> <p>FY 2013 Base Plans: Funds provide Expeditionary "Smart" Power Grids, Expeditionary Alternative (PV Solar) Energy Systems and Alternative (Bio) fuels to analyze, develop, and direct the Marine Corps' energy strategy in order to optimize expeditionary capabilities across all warfighting functions. Additionally, this funding will enable execution of the USMC Energy Strategy Implementation Guidance which identifies specified tasks and responsibilities and timeframes for achievement. These two documents align the Marine Corps with operational energy management and strategy requirements established in the National Defense Authorization Act 2009, DoD</p>	-	2.451 0	2.448 0	-	2.448 0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2277: <i>System Engineering and Integration</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
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directives and SECNAV goals. This funding will support the office"s requirements for technical, programmatic, and administrative support."

<p>Title: JINTACCS: JCS and OASD/NII Data Links Testing.</p> <p align="right">Articles:</p> <p>Description: Joint Interoperability of Tactical Command and Control Systems (JINTACCS) is a Joint Chiefs-of-Staff (JCS)/DoD-mandated program for joint development, implementation, and testing of tactical data links and US Message Text Format (MTF) under the direction of the Defense Information Systems Agency (DISA) and Office of the Secretary of Defense/Networks and Information Integration (OASD/NII) per the Commander Joint Chiefs of Staff (CJCSI) 6610.01C and CJCS16241.04 for US Military Tactical Forces (USMTF).</p> <p>FY 2011 Accomplishments: JINTACCS: Joint development, implementation, and testing of data links under the direction of the JCS and OASD/NII.</p> <p>FY 2012 Plans: JINTACCS: Joint development, implementation, and testing of data links under the direction of the JCS and OASD/NII.</p> <p>FY 2013 Base Plans: JINTACCS: Joint development, implementation, and testing of data links under the direction of the JCS and OASD/NII.</p>	1.543 0	1.070 0	1.007 0	-	1.007 0
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<p>Title: SEIC: Engineering and Technical Support</p> <p align="right">Articles:</p> <p>Description: Marine Air-Ground Task Force (MAGTF) Command, Control, Communications, Computers, and Intelligence (C4I) Systems Engineering and Integration, and Coordination (SEI&C). MAGTF C4I SEI&C provides for the centralized planning and execution of Marine Corps Enterprise Information Technology and National Security Systems. It develops, certifies, and manages the configurations of the Marine Corps Enterprise Systems and Technical Architecture products and uses these to support enterprise-level systems engineering. It supports unified technical representation to joint and coalition communities for Marine Corps Systems and provides top-tier system engineering support to address system of systems technical issues. It is used to conduct direct Marine Expeditionary Unit/Marine Expeditionary Force (MEU/MEF) support in system integration testing with USN. This is part of Deploying Group Systems Integration Testing (DGSIT)) and</p>	2.433 0	5.030 0	2.716 0	-	2.716 0
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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2277: <i>System Engineering and Integration</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<p>workups supporting Marine Expeditionary Force (MEF) deployments. It is also used to support Marine Corps systems coordination and involvement in DoD initiatives to include ForceNet, Global Information Grid Enterprise Services (GIGES), and other Deployable Information Systems Architecture DISA/NETWARCOM efforts.</p> <p><i>FY 2011 Accomplishments:</i> MAGTF SEI&C: Engineering and technical support for configuration management of MAGTF C4I systems. Review and submittal of multiple Integration Support Plans (ISPs) and Tactical ISPs (TISPs). Pre-deployment assistance to I MEF and multiple MEUs. Participation in ForceNet, NCES, GIGES and other Joint DoD initiatives. Plans are for continued activities to support the interoperability and jointness of the USMC Enterprise IT/NSS systems.</p> <p><i>FY 2012 Plans:</i> MAGTF SEI&C: Engineering and technical support for configuration management of MAGTF C4I systems. Review and submittal of multiple Integration Support Plans (ISPs) and Tactical ISPs (TISPs). Pre-deployment assistance to I MEF and multiple MEUs. Participation in ForceNet, NCES, GIGES and other Joint DoD initiatives. Plans are for continued activities to support the interoperability and jointness of the USMC Enterprise IT/NSS systems. FY12 level of funding is needed to accomplish the technical objectives for integration and interoperability between MAGTF systems and systems of systems.</p> <p><i>FY 2013 Base Plans:</i> MAGTF SEI&C: Engineering and technical support for configuration management of MAGTF C4I systems. Review and submittal of multiple Integration Support Plans (ISPs) and Tactical ISPs (TISPs). Pre-deployment assistance to I MEF and multiple MEUs. Participation in ForceNet, NCES, GIGES and other Joint DoD initiatives. Plans are for continued activities to support the interoperability and jointness of the USMC Enterprise IT/NSS systems. FY13 level of funding is needed to accomplish the technical objectives for integration and interoperability between MAGTF systems and systems of systems.</p>					
<p><i>Title:</i> JDEP: Develop Certifications and Conduct MAGTF C4I Capability</p> <p align="right"><i>Articles:</i></p> <p><i>Description:</i> Joint Distributed Engineering Plant (JDEP) directly supports DoD mandated directive CJCSI 6212.01F, to evaluate the interoperability of the holistic Marine Air Ground Task Force (MAGTF) Command Control Communications Intelligence (C4I) Capability produced by Marine Corps Systems Command (MARCORSYSCOM). This evaluation will be accomplished via the MAGTF C4I Capability Certification (MC3) process. Using MC3, composite capabilities are evaluated for their collective interoperability with</p>	1.429 0	1.024 0	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2277: <i>System Engineering and Integration</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
joint forces; support integration of emmergent systems with systems already fielded, and to conduct critical engineering analysis capable of isolating and correcting capability deficiencies and optimize system of systems performance.					
FY 2011 Accomplishments: JDEP: Conduct development of the MAGTF C4I Capability Certification process which involved the creation of capability based test threads. Additionally, create Joint Test Threads and participate in a JFCOM sponsored joint distributed test event.					
FY 2012 Plans: JDEP: Conduct development of the MAGTF C4I Capability Certification process which involved the creation of capability based test threads. Additionally, create Joint Test Threads and participate in a JFCOM sponsored joint distributed test event.					
Accomplishments/Planned Programs Subtotals	5.405	9.575	6.171	-	6.171

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

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2277: <i>System Engineering and Integration</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
JINTACCS	C/FP	NSWC:Dahlgren, VA	0.070	-		-		-		-	0.000	0.070	
Subtotal			0.070	-		-		-		-	0.000	0.070	

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
MAGTF SEI&C	C/FP	OSEC:Stafford, VA	1.200	2.480	Apr 2012	1.313	Apr 2013	-		1.313	0.000	4.993	
MAGTF SEI&C	C/FP	MCSC:Quantico, VA	0.800	0.800	Apr 2012	0.440	Apr 2013	-		0.440	0.000	2.040	
MAGTF SEI&C	WR	NSWC:Dahlgren, VA	0.449	0.750	Apr 2012	0.413	Apr 2013	-		0.413	0.000	1.612	
JDEP	C/FP	NSWC:Dahlgren, VA	1.152	0.344	Apr 2012	-		-		-	0.000	1.496	
JDEP	C/FP	OSEC:Carlsbad, CA	0.300	0.340	Apr 2012	-		-		-	0.000	0.640	
JINTACCS	C/FP	OSEC:Stafford, VA	1.000	0.742	Apr 2012	0.686	Apr 2013	-		0.686	0.000	2.428	
JINTACCS	C/FP	MCTSSA:Cmp Pendtton CA	0.513	0.328	Apr 2012	0.321	Apr 2013	-		0.321	0.000	1.162	
EEO (E20)	WR	NWSC:Crane, IN	-	0.901	Jan 2012	0.870	Jan 2013	-		0.870	0.000	1.771	
EEO (E20)	C/FP	NWSC:Cradderock, MD	-	0.875	Jan 2012	0.887	Jan 2013	-		0.887	0.000	1.762	
EEO (E20)	C/FP	SPAWAR:Charleston, SC	-	0.675	Jan 2012	0.691	Jan 2013	-		0.691	0.000	1.366	
Subtotal			5.414	8.235		5.621		-		5.621	0.000	19.270	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
JDEP	WR	SSCC:Charleston, SC	-	0.340	Apr 2012	-		-		-	0.000	0.340	
MAGTF SEI&C	MIPR	MITRE:Ft Monmouth NJ	-	1.000	Apr 2012	0.550	Apr 2013	-		0.550	0.000	1.550	
Subtotal			-	1.340		0.550		-		0.550	0.000	1.890	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy							DATE: February 2012				
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>			R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>				PROJECT 2277: <i>System Engineering and Integration</i>				
	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	5.484	9.575		6.171		-		6.171	0.000	21.230	

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2278: <i>Air Defense Weapons System</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2278: <i>Air Defense Weapons System</i>	5.788	2.171	1.993	-	1.993	3.210	3.407	3.421	3.491	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Ground Based Air Defense Transformation (GBAD-T) - Based upon the deployment of the Low Altitude Air Defense (LAAD) Battalions and their employment of the Stinger Missile, GBAD-T transforms Air Defense equipment through technology insertion and equipment repackaging to address capability gaps as the result of equipment obsolescence and the emergent and evolving threats to the Marine Air Ground Task Force (MAGTF).

GBAD-T consist of three efforts: 1) sustainment of currently fielded LAAD equipment/assets; 2) fielding and support of the Advanced Man-Portable Air Defense System (A-MANPADS) that replaces the Avenger Weapon System and existing MANPADS vehicles; 3) replacing the Remote Terminal Unit (RTU), an effort that replaces an 18 pound laptop computer that provides Situational Awareness and Command and Control to the Stinger and A-MANPAD teams. The RTU replacement will interface with and be capable of receiving a Common Aviation Command and Control Systems (CAC2S) broadcasted link. It will also be capable of interfacing with legacy MACCS.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: *GBAD TRANSFORMATION: Program Management Services	0.107	1.105	0.705	-	0.705
Articles:	0	0	0		0
FY 2011 Accomplishments: Continuing efforts for Information Assurance Accreditation.					
FY 2012 Plans: Information Assurance and Research into Slue to Cue and follow on weapons systems.					
FY 2013 Base Plans: Information Assurance and Research into Optics and Mode 5 IFF (identification friend or foe).					
Title: *GBAD TRANSFORMATION: Product Development	0.473	0.075	0.297	-	0.297
Articles:	0	0	0		0
FY 2011 Accomplishments: Continuing effort to research a replacement weapon for Stinger.					
FY 2012 Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2278: <i>Air Defense Weapons System</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Research in to advanced Friend or Foe Identification. FY 2013 Base Plans: Research in advanced Friend or Foe Identification.					
Title: *GBAD TRANSFORMATION: Integration Development (Missile Integration) Articles:	4.983 0	0.791 0	0.791 0	-	0.791 0
FY 2011 Accomplishments: Multiple vendor and Government participation in a Government sponsored GBAD capabilities demonstration.					
FY 2012 Plans: Multiple vendor and Government participation in a Government sponsored GBAD capabilities demonstration.					
FY 2013 Base Plans: Multiple vendor and Government participation in a Government sponsored GBAD capabilities demonstration.					
Title: *GBAD TRANSFORMATION: Support Costs (MCTSSA/MCCDC/Crane support) Articles:	0.225 0	0.200 0	0.200 0	-	0.200 0
FY 2011 Accomplishments: GBAD-T will continue to support Health Assesments at the LAAD Battalions and the Stinger School house, ensuring Operational Readiness is maintained.					
FY 2012 Plans: GBAD-T will continue to support Health Assesments at the LAAD Battalions and the Stinger School house, ensuring Operational Readiness is maintained.					
FY 2013 Base Plans: GBAD-T will continue to support Health Assesments at the LAAD Battalions and the Stinger School house, ensuring Operational Readiness is maintained.					
Accomplishments/Planned Programs Subtotals	5.788	2.171	1.993	-	1.993

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PMC/300600: GBAD-T	3.559	12.287	11.054	0.000	11.054	24.632	24.436	10.723	10.478	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2278: <i>Air Defense Weapons System</i>

D. Acquisition Strategy

GBAD TRANSFORMATION: Designated an Abbreviated Acquisition Program (AAP), GBAD-T effects the rapid transition from the Avenger/MANPADS weapon system to the more mobile, flexible, and maintainable Advanced MANPADS. The AAP is principally comprised of integrating Government Off The Shelf (GOTS) equipment and Non-developmental Items (NDI).

E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2278: <i>Air Defense Weapons System</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
GBAD-T	WR	NSWC:Crane.IN	3.424	-		-		-		-	0.000	3.424	
GBAD-T	MIPR	Army:AMRDEC	4.991	-		-		-		-	0.000	4.991	
GBAD-T	MIPR	PMA-259:China Lake	2.375	-		-		-		-	0.000	2.375	
GBAD-T	Various	TBD:.	5.548	-		-		-		-	0.000	5.548	
GBAD-T	WR	NSWC:Crane,IN (PAS-13 HW)	1.469	-		-		-		-	0.000	1.469	
GBAD-T	C/FP	EG&G:Stafford, VA	0.489	-		-		-		-	0.000	0.489	
GBAD-T	C/FP	DRS Tech:Palm Bay, FL	0.215	-		-		-		-	0.000	0.215	
GBAD-T	C/FP	Raytheon:San Diego, CA	3.700	-		-		-		-	0.000	3.700	
GBAD-T	C/FP	MCSC:Quantico, VA	0.464	0.075	Nov 2011	0.297	Nov 2012	-		0.297	0.000	0.836	
GBAD-T	C/FP	L3:San Diego, CA	1.473	-		-		-		-	0.000	1.473	
Subtotal			24.148	0.075		0.297		-		0.297	0.000	24.520	

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
GBAD-T	WR	NSWC:Crane, IN	0.526	0.200	Jan 2012	0.200	Jan 2013	-		0.200	0.000	0.926	
GBAD-T	C/FP	MCCDC:Quantico, VA	1.910	-		-		-		-	0.000	1.910	
GBAD-T	WR	MCTSSA:Camp Pendleton, CA	0.220	-		-		-		-	0.000	0.220	
GBAD-T	WR	MCSC:Quantico, VA	0.128	-		-		-		-	0.000	0.128	
GBAD-T	C/FP	MCOTEA:Quantico, VA	0.257	-		-		-		-	0.000	0.257	
JFIIT	SS/FP	RNB:Stafford, VA	1.425	-		-		-		-	0.000	1.425	
JFIIT	WR	MCSC:Quantico, VA	0.130	-		-		-		-	0.000	0.130	
Subtotal			4.596	0.200		0.200		-		0.200	0.000	4.996	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2278: <i>Air Defense Weapons System</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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			
GBAD-T	C/FFP	MCSC:Quantico, Va	-	0.791	Oct 2011	0.791	Oct 2012	-		0.791	0.000	1.582	
GBAD-T	MIPR	WSMR:NM	0.872	-		-		-		-	0.000	0.872	
GBAD-T	MIPR	Not Specified:Aberdeen, MD	0.047	-		-		-		-	0.000	0.047	
GBAD-T	C/FP	MCOTEA:Quantico, VA	0.672	-		-		-		-	0.000	0.672	
GBAD-T	MIPR	NATC:NM	0.710	-		-		-		-	0.000	0.710	
Subtotal			2.301	0.791		0.791		-		0.791	0.000	3.883	

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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			
GBAD-T	C/FFP	SPAWAR:Charleston SC	-	0.659	Oct 2011	0.320	Oct 2012	-		0.320	0.000	0.979	
GBAD-T	C/FP	MCSC:Quantico, VA	0.524	0.446	Oct 2011	0.385	Oct 2012	-		0.385	0.000	1.355	
Subtotal			0.524	1.105		0.705		-		0.705	0.000	2.334	

			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			31.569	2.171		1.993		-		1.993	0.000	35.733	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2278: <i>Air Defense Weapons System</i>


A-MANPADS Increment I Program Overview Schedule
 As of : 13 April 2011

Phase	Engineering & Manufacturing Development												Production & Deployment												
	2010			2011									2012												
	4 th			1 st			2 nd			3 rd			4 th			1 st			2 nd			3 rd			
Month	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	
Acquisition Milestone Events																									
PoPS Gate Template																									
Capabilities and Requirements																									
Systems Engineering																									
Logistics																									
Major Contract Events																									
Test and Evaluation																									
Cost																									
Information Assurance																									

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2278: <i>Air Defense Weapons System</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2278				
GBAD-T Milestone C	3	2011	3	2011
GBAD-T Full Rate Production	3	2011	3	2011
GBAD-T Fielding Decision	1	2012	1	2012
GBAD-T IOC	1	2012	1	2012

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2510: <i>MAGTF CSSE & SE</i>	32.568	43.185	25.231	-	25.231	4.476	4.677	4.696	4.395	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

(U) The Marine Air Ground Task Force (MAGTF) Combat Service Support Element & Supporting Establishment (CSSE & SE) consists of mutually supporting Logistics Information Technology (IT) programs that support force deployment, planning, and execution; sustainment and distribution; and contributes to the Combatant Commander's Common Operating Picture to support rapid accurate decision making.

MARINE CORPS COMMON HARDWARE SUITE (MCHS) provides Commercial-Off-The-Shelf (COTS) workstations (desktop/laptop), servers and other IT hardware to support the Operating Force and other non-Navy Marine Corps Intranet (NMCI) Marine Corps customers. MCHS provides support for two principal groups: 1) Approximately 50 United States Marine Corps (USMC) Tactical and Functional Programs of Record that use COTS IT hardware as part of their fielded systems; and 2) Tactical and other Marine Corps customers not supported by NMCI such as Marine Corps Forces, Europe/Marine Corps Forces, Korea and stand-alone Marine Corps units and schoolhouses. The goal of the program is to enhance overall IT system interoperability and lower the total cost of ownership by centralizing procurement of COTS IT hardware, reducing the number of different configurations of computers, and providing worldwide integrated logistics support for all fielded MCHS hardware. Rapid technology insertion provides ability to develop, test, and evaluate COTS hardware and software configurations for rapid fielding purposes.

GLOBAL COMBAT SUPPORT SYSTEM-MARINE CORPS (GCSS-MC) is the physical implementation of the enterprise Information Technology (IT) architecture designed to support both improved and enhanced Marine Air Ground Task Force (MAGTF) Combat Support Services (CSS) functions and MAGTF Commander and Combatant Commanders/Joint Task Force (CC/JTF) combat support information requirements. The initial program includes all transactional CSS systems related to Supply Chain Management (SCM) and Enterprise Asset Management (EAM) functionality enabled with Service Management functions. When combined, these capabilities are referred to as Logistics Chain Management (LCM) or GCSS-MC/LCM. The primary goal of GCSS-MC/LCM is to provide the capabilities specified in the Logistics Operational Architecture (Log OA). The result of enabling the Log OA is the retirement of legacy applications. The GCSS-MC/LCM exposes timely mission information to Marine Corps operational and CSS commanders, CC/JTF commanders and their staffs and other authorized users. It exposes information interoperability and common logistics information applications and services across functional areas. GCSS-MC/LCM allows operating forces commanders to base decisions on complete logistics information and make decisions in concert with specific operational tasks.

The GCSS-MC/LCM program is procuring capabilities by increments. GCSS-MC/LCM Increment 1 is a subset of the total requirement that focuses on Logistics Management and Execution with Logistics Command and Control requirements necessary to perform those functions in a deployed environment. GCSS-MC/LCM Increment 1 is global in scope and it can be deployed under any circumstances, during peace or war, independent of geographical location. The GCSS-MC/LCM Increment 1 Capability Development Document (CDD), dated 25 May 2005 and approved in December 2005, establishes the requirements for the entire GCSS-MC portfolio. Key objectives of the CDD include the following: (1) Deliver integrated functionality across supply, maintenance, transportation, finance, engineering, health, acquisition and manpower systems in accordance with the Marine Corps Logistics Operational Architecture; (2) Provide timely information to Marine Corps operational and CSS commanders, CCs and Joint JTF commanders and their staffs and other authorized users; (3) Allow Operating Forces (OPFORS) commanders to base

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	PE 0206313M: <i>Marine Corps Comms Systems</i>	2510: <i>MAGTF CSSE & SE</i>

decisions on complete logistics information and make decisions in concert with specific operational tasks; and (4) Provide users and operators of logistics processes access to information and applications across the spectrum of conflict regardless of location.

TRANSPORTATION SYSTEMS PORTFOLIO (TSP) supports the various ongoing and continuing efforts to modernize legacy USMC logistics systems including joint interoperability testing and certification and development to ensure compliance with information assurance testing and certification requirements. Legacy systems include joint programs supporting deployment and sustainment of theater assets as well as existing USMC legacy systems. Joint interoperability testing and certification is an ongoing and continuous requirement that is critical to ensuring all TSP applications are interoperable with other Department of Defense and Joint Services systems. There are also ongoing and continuing efforts to ensure that the legacy TSP applications comply with the latest information assurance requirements. TSP applications are continually updating their security posture through software enhancements based upon the latest cyber threats. Also, mandatory DOD compliance with software patches ensure TSP systems are in compliance with new information assurance vulnerability assessments and ensure data integrity, confidentiality and availability.

JOINT FORCE REQUIREMENTS GENERATOR II (JFRG II) is a Global Command and Control System (GCCS) software application designed to provide DOD with a Joint Services, state-of-the-art, integrated, and deployable Automated Information System (AIS) that supports strategic force movements. JFRG II provides rapid development of force data to satisfy operational planning and execution requirements. It serves as the essential link between service force requirements and validated/sourced unit data. JFRG II permits multi-level planning with entry of equipment and personnel data, transportation/movement data, and the phasing of the total force throughout the entire movement timeline. JFRG II contains an exhaustive joint data library and interfaces directly with the Joint Operation Planning and Execution System (JOPES). JFRG II can generate standard, executive, and ad hoc reports, perform database queries, and export or import data from Transportation Coordinators' Automated Information for Movement System (TC-AIMS) II, MAGTF Deployment Support System (MDSS) II and JOPES. JFRG II operates and functions in either a classified or unclassified environment.

PUBLIC KEY INFRASTRUCTURE (PKI) provides security objects and mechanisms used by Public Key (PK)-enabled systems and applications. The primary products of PKI are PK certificates and other certified objects used in conjunction with PK certificates. In addition to PK certificates, PKI provides on-line services (e.g. on-line certificate status checking), and supplies authenticated attributes in PK certificates and/or attribute certificates. PKI is one of a number of security solutions used to protect information and provide attributes to enable critical resources in the Global Information Grid, and is used concurrently with other solutions (e.g. in-line network encryptors to implement the defense-in-depth concept.) In conjunction with PK-enabled applications, PKI is used for identification, authentication, data confidentiality and integrity, and non-repudiation security services. Additionally, PKI functionally will be expanded to the Secret Internet Protocol Router Network (SIPRNET).

AUTOMATED IDENTIFICATION TECHNOLOGY (AIT) conducts research and development capabilities testing to expand and enhance options necessary to provide today's Commanders accurate information that allows better communication, coordinating, synchronization, and real-time logistics data transfer capabilities to programs that influence Warfighting evolutions. AIT devices, hardware and software's are continually evolving and RDT&E provides the necessary modernization progression to ensure that technologies deployed today meet the demands of the Commander's by providing faster, more reliable, increase data reliability and expedited logistics' architecture for Marine Corps-unique transportation, distribution and supply systems/software and applications. AIT forecast and plans to focus Web-basing, Web-enablement and Web Services software technology [i.e., machine-to-machine information exchanges between, our customers in the Military Services and Defense

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>
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agencies, and the Defense industry, based upon the open-standard Extensible Markup Language (XML), Simple Object Access Protocol (SOAP), Military-Standard (MIL-STD) formatted protocols]. There are three primary reasons why AIT is pursuing this direction:

1. Web-based applications dramatically reduce the costs associated with fielding new software mission capabilities. (Only a limited handful of central servers need to be updated rather than thousands of employees' desktop computers.)
2. Web-basing and Web Services make AITs software applications much more adaptable to the ongoing and future changes in the Marine Corps procurement and financial management systems that are being implemented in accordance with the Department's Business Enterprise Architecture.
3. AIT has found that Web-based application development is substantially less expensive than traditional client/server or mainframe-based application development. One of the reasons why Web-based development is less expensive is that Web-basing applications allows AIT to productively adapt large amounts of open source software packages with minimal or even zero acquisition and support costs. Also, this allows the Marine Corps to achieve their desired real-time supply chain information "reach-back" capabilities that may extend to the factory floors where parts, components, and systems are produced.

BASE TELECOMMUNICATIONS INFRASTRUCTURE (BTI) provides all Marine Corps installations with the base area network communications infrastructure that connects the end-user to the Defense Information Systems Agency (DISA) network. BTI sustains upgrades and enhances the telecommunications systems infrastructure for all Marine Corps Installations in order to meet the demands required to support the 5th Element of the MAGTF. BTI is designed to maintain industry currency as it relates to technological capabilities for all voice, video and data transport services via each installation's infrastructure. These data services include support for but are not limited to: Telephony (including voice over internet protocol), Enhanced 911, Video-Teleconferencing, Integrated Services Digital Network, Marine Corps Enterprise Network, Energy Monitoring Control Systems, Intrusion Detection Systems, Access Control Systems, Fire Alarm Control Networks and Fleet Training Systems. This includes supporting systems such as optical networks, telecommunications management systems, primary power, voice mail, teleconferencing, and outside plant infrastructure.

ELECTRONIC MAINTENANCE SUPPORT SYSTEM (EMSS) is composed of several main components including Electronic Maintenance Devices (EMD), regional servers, deployment servers, charger racks, and ruggedized deployment cases. EMSS is a rugged organizational-level (O-level), light-weight, one-man portable maintenance device capable of supporting multiple platforms and systems across maintenance communities. EMSS provides a Commercial Off-The-Shelf (COTS) hardware device equipped with network interfaces, Built-In-Test/Built-In-Test Equipment (BIT/BITE) interfaces, and Software Defined Test Instrument (SDTI) General Purpose Electronic Test Equipment (GPETE) capabilities. These hardware capabilities will enable commercial or custom DoD and USMC software capabilities including Interactive Electronic Technical Manuals (IETMs), Computer Based Training (CBT), access to Subject Matter Experts (SMEs) over USMC networks, and other maintenance applications to be hosted on EMSS. With these capabilities, maintainers will make more informed decisions, thereby sustaining force readiness over time.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: BASE TELECOM (BTI)	-	0.454	0.460	-	0.460
Articles:		0	0		0
FY 2012 Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<p>FY12 Participation in the DISA Unified Capabilities (voice, video, collaboration, and data) pilot is critical to BTI modernization strategy. The RDT&E funds will be utilized for testing efforts in support of the DISA Unified Communications Everything over Ethernet effort. After the testing is reviewed by the Joint Interoperability Test Command (JITC), successfully evaluated products will be placed on the Approved Products List (APL).</p> <p>FY 2013 Base Plans: FY13 continued participation in the DISA Unified Capabilities (voice, video, collaboration, and data) pilot is critical to BTI modernization strategy. The RDT&E funds will be utilized for testing efforts in support of the DISA Unified Communications Everything over Ethernet effort. After the testing is reviewed by the Joint Interoperability Test Command (JITC), successfully evaluated products will be placed on the Approved Products List (APL).</p>					
<p>Title: MARINE CORPS COMMON HARDWARE SUITE (MCHS)</p> <p align="right">Articles:</p> <p>FY 2011 Accomplishments: FY11 MCHS conducted trend analysis on reported failures of fielded Commercial off-the-Shelf (COTS) hardware and to evaluate the ability of new products to meet Marine Corps needs.</p> <p>FY 2012 Plans: In FY12, RTD&E will continue to be used to conduct trend analysis on reported failures of fielded COTS hardware and rapid technology insertion which provides ability to develop, test, and evaluate COTS hardware and software configurations for rapid fielding purposes.</p>	1.464 0	1.610 0	-	-	-
<p>Title: GCSS-MC LOGISTICS CHAIN MANAGEMENT (GCSS-MC)</p> <p align="right">Articles:</p> <p>FY 2011 Accomplishments: FY11 activities Increment 1, Release 1.2 activities include the completion of the Release 1.2 System Integration Development & Test (SIDT&E); preparation for the Follow-on Operational Test & Evaluation (FOT&E); MEF Transportability testing; and being Modular MAGTF System (MMS) design analysis.</p> <p>FY 2012 Plans:</p>	26.958 0	36.380 0	21.326 0	-	21.326 0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy				DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>		PROJECT 2510: <i>MAGTF CSSE & SE</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					
FY12 activities include completion of the Increment 1, Release 1.2 Marine Expeditionary Force (MEF) SIDT&E, MEF Government Development Test & Evaluation (GDT&E) and MEF FOT&E. FY12 activities also include the start of the GCSS-MC baseline upgrade from Oracle eBusiness Suite Release 11 to Release 12.					
FY 2013 Base Plans: FY13 activities include the continuation of the GCSS-MC baseline upgrade from Oracle eBusiness Suite Release 11 to Release 12.					
Title: TRANSPORTATION SYSTEMS PORTFOLIO (TSP)					
Articles:					
	0.542 0	1.134 0	- -	-	-
FY 2011 Accomplishments: FY11 TSP conducted Active RFID upgrades and Joint Interoperability Testing & Certification (JITC) for all application upgrades and releases for all the programs within the portfolio.					
FY 2012 Plans: During FY12 TSP will conduct Active RFID upgrades and JITC for all application upgrades and releases for all the programs within the portfolio.					
Title: JOINT FORCES REQUIREMENT GENERATION II (JFRG II)					
Articles:					
	0.349 0	0.260 0	0.175 0	-	0.175 0
FY 2011 Accomplishments: FY11 funds provided Technology Development to reach Milestone B.					
FY 2012 Plans: FY12 funds will continue to fund Technology Development to reach Milestone B.					
FY 2013 Base Plans: FY13 funds will be utilized to conduct Engineering & Manufacturing Development to reach Milestone C.					
Title: PUBLIC KEY INFRASTRUCTURE (PKI)					
Articles:					
	1.274 0	1.547 0	1.214 0	-	1.214 0
FY 2011 Accomplishments: FY11 PKI continued testing, correction of deficiencies, and implementation of PKI requirements for tactical applications as well as MCEITS and SIPRNET capabilities.					
FY 2012 Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy				DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>		PROJECT 2510: <i>MAGTF CSSE & SE</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					
FY12 funding will provide for continued testing, correction of deficiencies, and implementation of PKI requirements for tactical applications as well as MCEITS and SIPRNET capabilities.					
FY 2013 Base Plans: FY13 funding will provide for continued testing, correction of deficiencies, and implementation of PKI requirements for tactical applications as well as MCEITS and SIPRNET capabilities.					
Title: AUTOMATED IDENTIFICATION TECHNOLOGY (AIT)					
Articles:					
	1.981	1.800	-	-	-
	0	0			
FY 2011 Accomplishments: During FY11 the AIT Program Office worked with functional advocates and Capability, Development and Integration (CD&I) to solidify the requirement to develop an enterprise/consolidated AIT infrastructure capability in order to reduce future maintenance costs. Current infrastructure supports both active radio-frequency identification (aRFID) and passive RFID (pRFID) using multiple middleware solutions and contracts. The AIT PO awarded a contract in order to research and develop an enterprise/consolidated AIT capability taking advantage of new technology and middleware.					
FY 2012 Plans: During FY12 AIT will upgrade the RFID infrastructure to include a mobile capability. Initiate development and testing of AIT device interfaces with GCSS-MC. Expand communications capabilities for the active RFID (aRFID) infrastructure to include cellular and broadband capabilities. AIT will expand the aRFID infrastructure to take advantage of newer technology to allow non-nodal tracking in response to after-action comments from Iraq. AIT will provide the ability to control devices on the edgware and provide common infrastructure middleware capability to support multiple AIT technologies FY12 - FY16.					
Title: ELECTRONIC MAINTENANCE SUPPORT SYSTEM (EMSS)					
Articles:					
	-	-	2.056	-	2.056
			0		0
FY 2013 Base Plans: In FY13 the EMSS program will begin Research and Development for the Block II version of the Electronic Maintenance Support Systems to include all subcomponents. The program office will conduct studies and initiate the transition to the Block II using a Pre-Planned Product Improvement (P3I) version of EMSS. Focus areas will be deployed wireless capability, advanced diagnostics software applications, and IETM software development.					
Accomplishments/Planned Programs Subtotals					
	32.568	43.185	25.231	-	25.231

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>

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

Line Item	FY 2011	FY 2012	FY 2013			FY 2014	FY 2015	FY 2016	FY 2017	Cost To	
			Base	OCO	Total					Complete	Total Cost
• PMC/BLI 463000 MCHS: <i>MCHS</i>	22.404	11.162	19.570	0.000	19.570	2.880	2.079	2.079	2.245	Continuing	Continuing
• PMC/BLI 461700 GCSS: <i>GCSS-MC</i>	26.988	13.897	24.034	0.000	24.034	5.541	3.228	16.565	7.519	Continuing	Continuing
• PMC/BLI 463000 PKI: <i>PKI</i>	0.163	0.001	0.001	0.000	0.001	0.000	0.000	0.428	0.000	Continuing	Continuing
• PMC/BLI 461700 AIT: <i>AIT</i>	4.753	3.990	0.157	0.000	0.157	0.163	0.351	0.163	0.246	Continuing	Continuing
• PMC/BLI 463500 BTI: <i>BTI</i>	11.730	21.151	22.135	0.000	22.135	18.567	19.527	19.877	20.228	Continuing	Continuing
• PMC/BLI 418100: <i>EMSS</i>	1.996	2.016	7.425	0.000	7.425	5.908	4.696	4.604	4.367	Continuing	Continuing
• PMC/BLI 463500 PKI: <i>PKI</i>	0.998	1.184	1.318	0.000	1.318	1.304	1.450	1.494	1.607	Continuing	Continuing
• PMC/BLI 463000 TSP: <i>TSP</i>	0.220	0.873	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.093

D. Acquisition Strategy

MARINE CORPS HARDWARE SUITE (MCHS) ensures computer hardware in the Operating Forces keeps pace with industry computer hardware technical improvements. Analyses of technical alternatives are periodically required in order to determine how to best meet emerging customer requirements.

GLOBAL COMBAT SUPPORT SYSTEM-MARINE CORPS (GCSS-MC) is pursuing an Evolutionary Acquisition (EA) strategy in order to field operationally suitable and supportable capabilities in the shortest time possible that meets the Logistics Advocate goals. EA offers the fastest method to field this highest of advocate priorities and allows for requirements to be time-phased as the users become more familiar with the strengths and weaknesses of the fielded system. In addition to quicker fielding, an EA approach is particularly well suitable for software intensive programs and offers these benefits: rapid delivery of an initial capability with the explicit intent of delivering continuously improving capabilities in the future and a reduction in the "cycle time" from identification of emergent user requirements, priorities and fielding. The GCSS-MC acquisition strategy will deliver capabilities in increments. Each increment capability will follow a complete acquisition process in accordance with the DOD 5000 publications and OSD's Enterprise Integration roadmap. Increments will include emergent user priorities, advanced technology improvements and expanded functionality. Each increment will repeat the complete acquisition program cycle going through a milestone (MS) C Full Rate Production Decision Review. Increment 1 is divided into two major independent releases: Enterprise Release 1.1 and Deployed Access Release 1.2. This approach differs from the original plan of delivering one release due to the technical complexities related to the overall scope of the solution. More substantial software improvement/system upgrades will be fielded with each Increment as required and prioritized by the user community.

TRANSPORTATION SYSTEMS PORTFOLIO (TSP) conducts research and development currently executed under multiple contracts ending at various times across the FYDP. These contracts support the testing of the joint deployment and sustainment systems along with the USMC legacy systems.

JOINT FORCES REQUIREMENT GENERATOR II (JFRG II) conducts research and development currently executed under a five-year contract ending August 2011. Open Competition for a follow on contract to continue supporting testing of software for functionality with service users then passed on to Defense Information Systems

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	PE 0206313M: <i>Marine Corps Comms Systems</i>	2510: <i>MAGTF CSSE & SE</i>

Agency (DISA) for security and interoperability testing and released as a Global Command and Control Systems (GCCS) mission application. This is conducted based on a six-month release schedule of GCCS, with a six-month lead time for each JFRG II version release.

PUBLIC KEY INFRASTRUCTURE (PKI) is a DOD ACAT IAM Program. At the service level, the USMC PKI program is being managed as an Abbreviated Acquisition Program. Based on an Assistant Secretary of Defense Acquisition Decision Memorandum, DOD PKI development will be conducted through a series of block upgrades. The functional enhancement, changes will result in increased capability and functionality for PKI and increase the levels of security and assurance which affects mitigation of identified risks. There are thirteen functional and five assurance enhancements. Additionally, PKI functionality will be expanded to the SIPRNET.

AUTOMATED IDENTIFICATION TECHNOLOGY (AIT) hardware in the Operating Forces keeps pace with industry computer hardware technical improvements. AIT will support all aspects of active Radio Frequency Identification (aRFID) and passive RFID (pRFID). AIT evaluates emerging technologies, new equipment, and performs integration analysis and testing.

BASE TELECOMMUNICATIONS INFRASTRUCTURE (BTI) provides all Marine Corps installations with the base area network communications infrastructure that connects the end-user to the DISA network. BTI sustains upgrades and enhances the telecommunications systems infrastructure for all Marine Corps Installations in order to meet the demands required to support the 5th Element of the Marine Air Ground Task Force (MAGTF). Participation in the DISA Unified Capabilities (voice, video, collaboration, and data) pilot is critical to BTI modernization strategy. The RDT&E funds will be utilized for testing efforts in support of the DISA Unified Communications Everything over Ethernet effort. After the testing is reviewed by the JITC, successfully evaluated products will be placed on the Approved Products List (APL). The BTI PO currently utilizes various multi-year Blanket Purchase Agreement contracts to procure the test equipment and products being evaluated.

ELECTRONIC MAINTENANCE SUPPORT SYSTEM (EMSS) will conduct technology development, market research, and prototype testing for Block II capabilities required for MS B to be achieved 4th quarter FY14.

E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 (EMSS)	TBD	NAVESEA:Washington, District of Columbia	-	-		0.500	Dec 2012	-		0.500	Continuing	Continuing	Continuing
GCSS LCM Increment 1 Application	C/T&M	Oracle USA:Reston, VA	178.985	14.180	Oct 2011	-		-		-	Continuing	Continuing	Continuing
GCSS LCM Increment 1 Training Development	C/FP	EDO:Stafford, VA	2.500	-		-		-		-	Continuing	Continuing	Continuing
PKI	C/FFP	Various:Various	6.815	1.547	Feb 2012	1.214	Feb 2013	-		1.214	Continuing	Continuing	Continuing
AIT	C/FFP	TBD:TBD	6.983	1.800	Aug 2012	-		-		-	Continuing	Continuing	Continuing
VAR	Various	Various:Various	17.601	-		-		-		-	Continuing	Continuing	Continuing
GCSS LCM Oracle eBusiness Suite Release 12 Upgrade	C/FP	TBD:TBD	-	22.200	Mar 2012	21.326	Nov 2012	-		21.326	Continuing	Continuing	Continuing
Subtotal			212.884	39.727		23.040		-		23.040			

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 Support (EMSS)	WR	NSWC, Crane:Crane, Indiana	-	-		0.563	Dec 2012	-		0.563	Continuing	Continuing	Continuing
Various Studies (EMSS)	Various	Various:Various	-	-		0.993	Mar 2013	-		0.993	Continuing	Continuing	Continuing
VAR	Various	Various:Various	1.213	1.394	Jul 2012	0.175	Jul 2013	-		0.175	Continuing	Continuing	Continuing
Subtotal			1.213	1.394		1.731		-		1.731			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
MCHS	WR	SPAWAR:Charleston, SC	11.141	1.610	Jan 2012	-		-		-	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
GCSS LCM Increment 1 DT & OT Evaluations	WR	MCOTEA:Quantico, VA	10.149	-		-		-		-	Continuing	Continuing	Continuing
Various	Various	Various:Various	13.799	-		-		-		-	Continuing	Continuing	Continuing
BTI	C/FFP	TBD:TBD	-	0.454	Sep 2012	0.460	Sep 2013	-		0.460	Continuing	Continuing	Continuing
Subtotal			35.089	2.064		0.460		-		0.460			

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
GCSS LCM PMO Support	C/FFP	TASC:Stafford, VA	14.745	-		-		-		-	Continuing	Continuing	Continuing
GCSS LCM PMO Support	C/FFP	Various:Various	12.843	-		-		-		-	Continuing	Continuing	Continuing
Various	Various	Various:Various	3.980	-		-		-		-	Continuing	Continuing	Continuing
Subtotal			31.568	-		-		-		-			

			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			280.754	43.185		25.231		-		25.231			

Remarks

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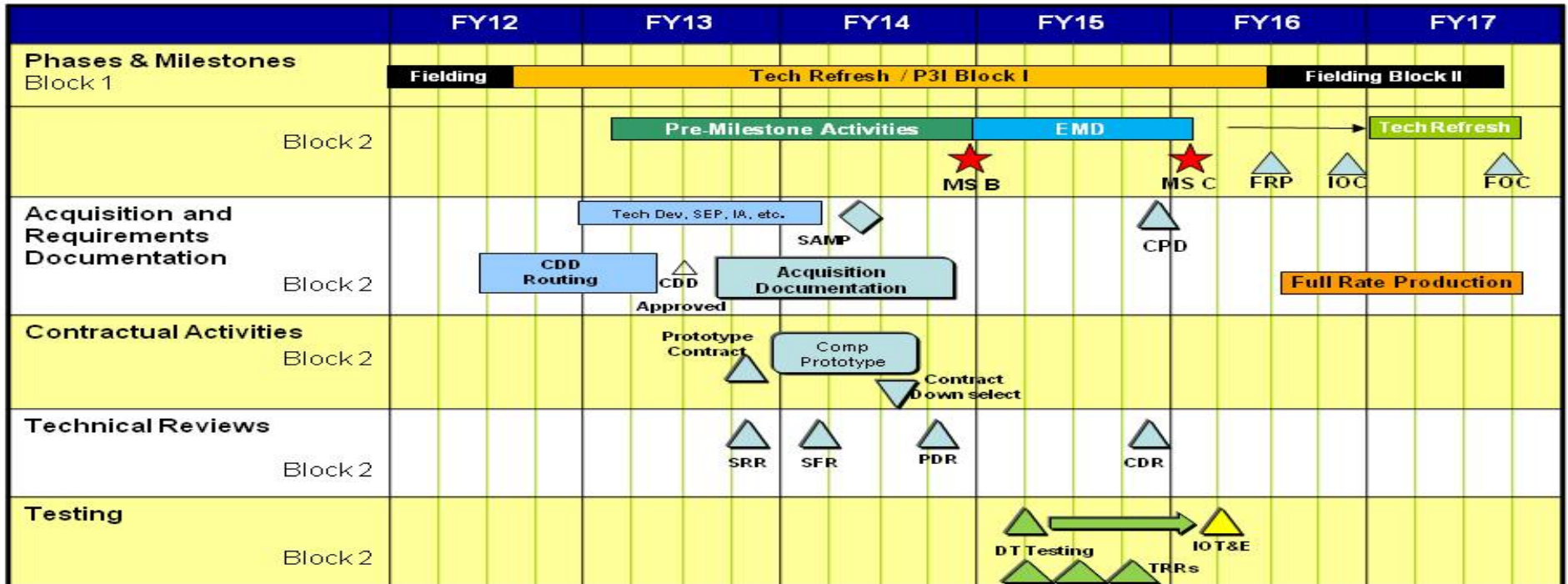
Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy

DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0206313M: Marine Corps Comms Systems

PROJECT
 2510: MAGTF CSSE & SE



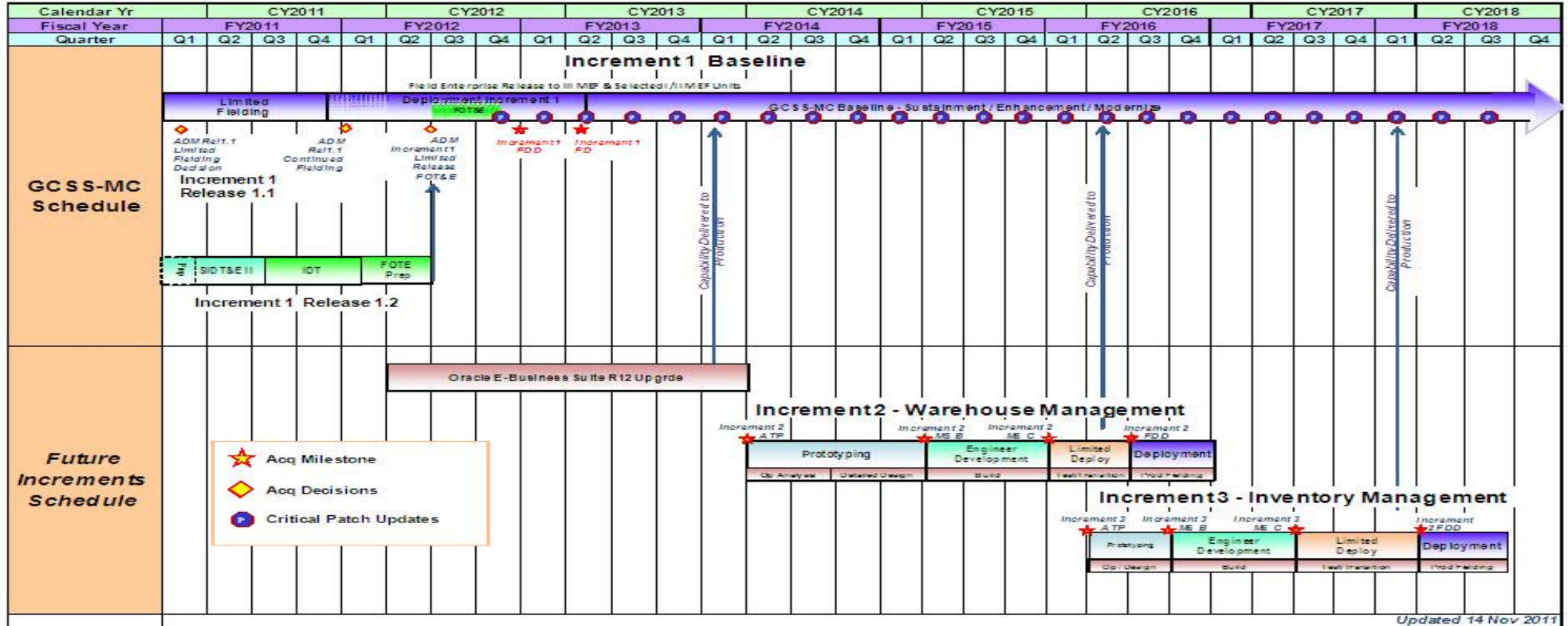
1

APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0206313M: Marine Corps Comms Systems

PROJECT
 2510: MAGTF CSSE & SE

GCSS-MC/LCM Program Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2510				
GCSS-MC Logistics Chain Mgt Increment 1 Limited Release AD	4	2011	4	2011
GCSS-MC Logistics Chain Mgt Increment 1 FDD	1	2013	1	2013
GCSS-MC Logistics Chain Mgt Increment 1 FD	2	2013	2	2013

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 3099: <i>Radar System</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
3099: <i>Radar System</i>	24.164	33.807	25.677	-	25.677	17.467	11.668	7.535	7.987	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Long Range Radar (AN/TPS-59) - The AN/TPS-59 is a three dimensional ground-based sensor that can detect and track long range Air Breathing Targets (ABT) at ranges of 300 nautical miles and Tactical Ballistic Missiles (TBM) at ranges of 400 nautical miles. The system is experiencing increasing obsolescence and Diminishing Manufacturing Sources and Material Shortages (DMSMS) issues. The program will use a Post Production Support (PPS) contract to develop engineering changes to resolve DMSMS and incorporate Mode 5 Identification Friend or Foe (IFF) per DOD mandate.

Family of Target Acquisition Systems (FTAS) - The FTAS provides the MAGTF the capability to locate, identify and attack enemy indirect fire weapons systems and observe and direct friendly artillery fire. The FTAS consists of the AN/TPQ-46 Firefinder radar, the AN/TPQ-48 Lightweight Counter Mortar Radar and the AN/TSQ-267 Target Processing Set. The FTAS is critical in the execution of counterfire and the integration of target acquisition information enabling attack by MAGTF assets. The FTAS also provides artillery firing units the ability to conduct artillery registration and other friendly fire missions. The FTAS encompasses the equipment required to support target acquisition within the target acquisition platoon and is resident in the headquarters battery of each artillery regiment. The program will continue to address engineering issues that arise due to DMSMS items within the FTAS.

Short/Medium Range Air Defense Radar (SHORAD) - The SHORAD AN/TPS-63 is a two-dimensional, medium-range, medium altitude, transportable radar system which is doctrinally employed as a tactical gap-filler or as an early warning system for early deployment into the operational area. It has a 360-degree air surveillance capability at a range of 160 miles and complements the co-employed AN/TPS-59 three-dimensional, long-range, air surveillance radar system. The Short/Medium Range Air Defense Radar will develop engineering change proposals related to improved system reliability with the specific purpose of meeting increased fleet operational requirements.

Three Dimensional Expeditionary Long Range Radar (3DELRR) - Marine Corps personnel are providing technical, engineering, and programmatic support to the U.S. Air Force 3DELRR program. The program support consists of program management, engineering, logistics, test, and requirements activities. 3DELRR is a potential replacement for the AN/TPS-59.

Virtual Warfare Center (VWC) Support - The project team conducts fully interactive simulated wargames at the Virtual Warfare Center (VWC) in St. Louis, MO, in order to quantify family of systems performance and how it impacts effectiveness in the Integrated Air and Missile Defense (IAMD) mission area. The VWC provides a venue for the exploration of advanced engagement concepts focused on persistent forward naval engagements in support of the MAGTF and the development of associated Joint and Service specific TTPs. VWC support encompasses a set of integrated fire control (IFC) activities that also includes concept/CONOPS development, family of systems architecture development, and systems engineering/integration efforts.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 3099: <i>Radar System</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
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Title: AN/TPS-59 : Develop Engineering Change Proposals	9.363	12.462	10.706	-	10.706
Articles:	0	0	0		0

Description: The program will address DMSMS issues by continuing use of a Post Production Support (PPS) contract. The AN/TPS-59 modification will address DMSMS and the DOD mandated Mode 5 Implementation of the AN/TPS-59 Radar System.

FY 2011 Accomplishments:
Lockheed Martin - Data Processor Group Fielding, Software Maintenance Update Fieldings, IFF Mode 5, 1A5 Antenna Power Cabinet Engineering Change Proposal/Delivery Orders Awarded, and DMSMS reports.

FY 2012 Plans:
Lockheed Martin - Continue development of IFF Mode 5, 1A5 Antenna Power Cabinet Engineering Change Proposals, and software maintenance releases. Initiate Receiver/Exciter ECP to address DMSMS/Obsolescence issues.

FY 2013 Base Plans:
Lockheed Martin - IFF Mode 5, 1A5 Antenna Power Cabinet, Receiver/Exciter Engineering Change Proposal, and software maintenance releases. MS-C scheduled for 2nd QTR FY14.

Title: AN/TPS-59 : Management Service Support	6.913	7.000	4.500	-	4.500
Articles:	0	0	0		0

FY 2011 Accomplishments:
MCSC - Program Management Support.

FY 2012 Plans:
MCSC - Program Management Support.

FY 2013 Base Plans:
MCSC - Program Management Support (reduced effort based on PM's prioritization of requirements).

Title: AN/TPS-59 : Engineering and Technical Support	4.897	6.738	4.549	-	4.549
Articles:	0	0	0		0

FY 2011 Accomplishments:

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy				DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>		PROJECT 3099: <i>Radar System</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					
<p>MCOTEA/MCTSSA - Data Processing Group and Software Maintenance Testing events, MITRE/NSWC Dahlgren - Engineering support, Lockheed Martin - PMO/IPT, SPAWAR - IA Support, MCCDC CD&I - Requirements support, NAWC Pax River - Mode 5 support.</p> <p>FY 2012 Plans: MCOTEA/MCTSSA - Software Maintenance Testing events, MITRE/NSWC Dahlgren - Engineering support, Lockheed Martin - PMO/IPT, SPAWAR - IA Support, MCCDC CD&I - Requirements support, NAWC Pax River - Mode 5 support.</p> <p>FY 2013 Base Plans: MCOTEA/MCTSSA - Mode 5 and Software Maintenance Testing events, MITRE/NSWC Dahlgren - Engineering support, Lockheed Martin - PMO/IPT, SPAWAR - IA Support, MCCDC CD&I - Requirements support, NAWC Pax River - Mode 5 support. (Reduced effort for IA support - prioritization of efforts directed towards Mode 5)</p>					
<p>Title: SHORAD: Engineering and Technical Support</p> <p align="right">Articles:</p>					
	1.186	0.205	0.489	-	0.489
	0	0	0		0
<p>Description: Provide configuration management to the current systems by on-site visits and field configuration surveys. Continuing development effort to resolve ongoing DMSMS and obsolescence issues.</p> <p>FY 2011 Accomplishments: TIU interface and Baseline Study delivery orders awarded and conducted.</p> <p>FY 2012 Plans: Correct DMSMS and obsolescence issues based on results of Baseline/Life Extension Study.</p> <p>FY 2013 Base Plans: Continue resolving DMSMS and obsolescence issues based on results of Baseline/Life Extension Study.</p>					
<p>Title: FTAS: Engineering and Technical Support</p> <p align="right">Articles:</p>					
	0.575	0.546	0.646	-	0.646
	0	0	0		0
<p>FY 2011 Accomplishments: NSWC Dahlgren - Engineering Support for the Family of Target Acquisition systems to support Sensor Management and Collaboration Tool (SMACT) Development, and Government liason with Fires Software</p>					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 3099: <i>Radar System</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Engineering Directorate (FSED) Ft. Sill. MCSC Albany - Program Travel in support of Equipment and Logistics SME. FY 2012 Plans: NSWC Dahlgren - Engineering Support for the Family of Target Acquisition systems to support Sensor Management and Collaboration Tool (SMACT) Development, and Government liason with Fires Software Engineering Directorate (FSED) Ft. Sill. Aberdeen Proving Ground (APG)- M116A3 MOD Trailer Capabilities Validation. Tobyhanna Army Depot (TYAD)- AN/TPQ-46 MILTOPE Computer Refresh Engineering Change Proposal (ECP). MCSC Albany - Program Travel in support of Equipment and Logistics SME. FY 2013 Base Plans: NSWC Crane - ECP development on the AN/TSQ-267. NSWC Dahlgren - Engineering Support for the Family of Target Acquisition systems, and Government liason with Fires Software Engineering Directorate (FSED) Ft. Sill. Tobyhanna Army Depot (TYAD)- AN/TPQ-46 MILTOPE Computer Refresh Engineering Change Proposal (ECP). MCSC Albany - Program Travel in support of Equipment and Logistics SME.					
Title: FTAS: Management Service Support Articles:	1.230 0	-	-	-	-
FY 2011 Accomplishments: MCSC- Program Management Support.					
Title: 3DELRR: Testing and Requirements Support Articles:	-	0.280 0	0.240 0	-	0.240 0
FY 2012 Plans: MCOTEA - Testing support, MCCDC CD&I - requirements support.					
FY 2013 Base Plans: MCOTEA - Testing support, MCCDC CD&I - requirements support.					
Title: 3DELRR: Management Service Support Articles:	-	1.745 0	1.611 0	-	1.611 0
FY 2012 Plans: MCSC - Program Management and Technical Support.					
FY 2013 Base Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 3099: <i>Radar System</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
MCSC - Program Management and Technical Support.					
Title: VWC: Testing Support	-	4.831	2.936	-	2.936
Articles:		0	0		0
FY 2012 Plans:					
FY11: Effort was shut down from March-September 2011. Automated Battle Management Aides (ABMA) analysis was conducted. Resumed USMC participation in the Nimble Fire exercise. Delivered the USMC Operational Concept for Integrated Fire Control (IFC) Capability document. Delivered the USMC Integrated Air and Missile Defense (IAMD) Architecture Phase I products.					
FY12: Conduct fully interactive simulated wargames (Nimble Fire) at the Virtual Warfare Center (VWC) in St. Louis, MO, in order to quantify family of systems performance and how it impacts effectiveness in the Integrated Air and Missile Defense (IAMD) mission area. Deliver USMC IFC architecture Phase II products. Conduct systems integration of IFC related systems in analysis venues. Conduct systems engineering of IFC related C2, sensors, networks, and weapons. Transition technical workspace to new facility as part of the BRAC.					
FY 2013 Base Plans:					
Continuation of simulated wargames at the Virtual Warfare Center (VWC) in St. Louis, MO, in order to quantify family of systems performance and how it impacts effectiveness in the Integrated Air and Missile Defense (IAMD) mission area.					
Accomplishments/Planned Programs Subtotals	24.164	33.807	25.677	-	25.677

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PMC/465003: <i>AN/TPS-59</i>	10.993	49.799	30.901	8.015	38.916	20.009	18.926	26.996	31.796	Continuing	Continuing
• PMC/465005: <i>FTAS</i>	0.159	5.388	3.145	0.000	3.145	2.157	2.228	2.284	2.332	Continuing	Continuing
• PMC/465007: <i>SHORAD</i>	0.500	7.425	3.685	0.000	3.685	1.713	0.976	1.421	0.728	Continuing	Continuing

D. Acquisition Strategy
 Long Range Radar (AN/TPS-59) - The AN/TPS-59 is a three dimensional ground-based sensor that can detect and track long range Air Breathing Targets (ABT) at ranges of 300 nautical miles and Tactical Ballistic Missiles (TBM) at ranges of 400 nautical miles. The system is experiencing increasing obsolescence and Diminishing Manufacturing Sources and Material Shortages (DMSMS) issues. The program will use a Post Production Support (PPS) contract to develop engineering changes to resolve DMSMS and incorporate Mode 5 Identification Friend or Foe (IFF) per DOD mandate.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	PE 0206313M: <i>Marine Corps Comms Systems</i>	3099: <i>Radar System</i>

Family of Target Acquisition Systems (FTAS) - The FTAS provides the MAGTF the capability to locate, identify and attack enemy indirect fire weapons systems and observe and direct friendly artillery fire. The FTAS consists of the AN/TPQ-46 Firefinder radar, the AN/TPQ-48 Lightweight Counter Mortar Radar and the AN/TSQ-267 Target Processing Set. The FTAS is critical in the execution of counterfire and the integration of target acquisition information enabling attack by MAGTF assets. The FTAS also provides artillery firing units the ability to conduct artillery registration and other friendly fire missions. The FTAS encompasses the equipment required to support target acquisition within the target acquisition platoon and is resident in the headquarters battery of each artillery regiment. The program will continue to address engineering issues that arise due to DMSMS items within the FTAS.

Short/Medium Range Air Defense Radar (SHORAD) - The SHORAD AN/TPS-63 is a two-dimensional, medium-range, medium altitude, transportable radar system which is doctrinally employed as a tactical gap-filler or as an early warning system for early deployment into the operational area. It has a 360-degree air surveillance capability at a range of 160 miles and complements the co-employed AN/TPS-59 three-dimensional, long-range, air surveillance radar system. The Short/Medium Range Air Defense Radar will develop engineering change proposals related to improved system reliability with the specific purpose of meeting increased fleet operational requirements.

Three Dimensional Expeditionary Long Range Radar (3DELRR) - Marine Corps personnel are providing technical, engineering, and programmatic support to the U.S. Air Force 3DELRR program. The program support consists of program management, engineering, logistics, test, and requirements activities. 3DELRR is a potential replacement for the AN/TPS-59.

Virtual Warfare Center (VWC) Support - The project team conducts fully interactive simulated wargames at the Virtual Warfare Center (VWC) in St. Louis, MO, in order to quantify family of systems performance and how it impacts effectiveness in the Integrated Air and Missile Defense (IAMD) mission area. The VWC provides a venue for the exploration of advanced engagement concepts focused on persistent forward naval engagements in support of the MAGTF and the development of associated Joint and Service specific TTPs. VWC support encompasses a set of integrated fire control (IFC) activities that also includes concept/CONOPS development, family of systems architecture development, and systems engineering/integration efforts.

E. Performance Metrics

Milestone Reviews

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 3099: <i>Radar System</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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/TPS-59	C/CPFF	LOCKHEED MARTIN:SYRACUSE, NY	61.938	12.462	Oct 2011	10.706	Oct 2012	-		10.706	0.000	85.106	
SHORAD	C/CPFF	NORTHROP GRUMMAN:WARNER ROBINS, GA	1.444	0.205	Jan 2012	0.489	Jan 2013	-		0.489	0.000	2.138	
Subtotal			63.382	12.667		11.195		-		11.195	0.000	87.244	

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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/TPS-59	WR	NAWCAD:PAX RIVER, MD	-	1.000	Oct 2011	0.550	Oct 2012	-		0.550	0.000	1.550	
AN/TPS-59	C/CPFF	MCOTEA:QUANTICO	0.340	0.350	Oct 2011	0.300	Oct 2012	-		0.300	0.000	0.990	
AN/TPS-59	C/CPFF	MCCDC CDI:QUANTICO	0.400	0.388	Apr 2012	0.356	Apr 2013	-		0.356	0.000	1.144	
AN/TPS-59	C/CPFF	NSWCDD:MCSC	1.763	2.250	Jan 2012	1.400	Jan 2013	-		1.400	0.000	5.413	
AN/TPS-59	C/CPFF	SPAWAR:MCSC	1.494	1.750	Feb 2012	0.950	Feb 2013	-		0.950	0.000	4.194	
AN/TPS-59	C/CPFF	MITRE:BEDFORD, MA	1.925	1.000	Oct 2011	1.000	Oct 2012	-		1.000	0.000	3.925	
FTAS	WR	NSWC:DAHLGREN	5.883	0.280	Jan 2012	0.250	Jan 2013	-		0.250	0.000	6.413	
FTAS	MIPR	AMRY CECOM:ABERDEEN, MD	2.418	-		-		-		-	0.000	2.418	
FTAS	MIPR	APG:ABERDEEN, MD	-	0.100	Feb 2012	-		-		-	0.000	0.100	
FTAS	MIPR	TYAD:TOBYHANNA, PA	-	0.116	Feb 2012	0.048	Feb 2013	-		0.048	0.000	0.164	
FTAS	WR	NSWC:CRANE, IN	1.850	-		0.298	Oct 2012	-		0.298	0.000	2.148	
FTAS	Various	MCSC:QUANTICO	1.974	0.050	Oct 2011	0.050	Oct 2012	-		0.050	0.000	2.074	
3DELRR	C/CPFF	MCOTEA:QUANTICO	-	0.138	Mar 2012	0.113	Mar 2013	-		0.113	0.000	0.251	
3DELRR	Various	HQMC CD&I:HQMC	-	0.142	Mar 2012	0.120	Mar 2013	-		0.120	0.000	0.262	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 3099: <i>Radar System</i>
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Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
VWC	C/CPFF	ONR:ST. LOUIS, MO	-	4.831	Oct 2011	2.936	Oct 2012	-		2.936	0.000	7.767		
Subtotal			18.047	12.395		8.371		-		8.371	0.000	38.813		

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total				
Cost Category Item	Contract Method & Type	Performing Activity & 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/TPS-59	C/CPFF	MCSC:QUANTICO	13.654	7.000	Dec 2011	4.500	Dec 2012	-		4.500	0.000	25.154		
AN/TPS-59 (3DELRR)	C/CPFF	GENERAL DYNAMICS:QUANTICO	2.000	-		-		-		-	0.000	2.000		
FTAS	WR	MCSC:QUANTICO	0.504	-		-		-		-	0.000	0.504		
3DELRR	C/CPFF	GENERAL DYNAMICS:QUANTICO	-	1.745	Dec 2011	1.611	Dec 2012	-		1.611	0.000	3.356		
Subtotal			16.158	8.745		6.111		-		6.111	0.000	31.014		

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		97.587	33.807		25.677		-	25.677	0.000	157.071	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy

DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0206313M: Marine Corps Comms Systems

PROJECT
 3099: Radar System

FTAS Schedule

Fiscal Year	Operations & Support																																											
	FY 11				FY 12				FY 13				FY 14				FY 15				FY 16				FY 17				FY 18															
Quarter	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	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4								
Acquisition / Milestone Events	TPS				TPS FOC				Tech Refresh				Firefinder Life Cycle				TPS Life Cycle Sustainment				Tech Refresh				Tech Refresh																			
Supporting PoPS Gate Template	TPS Fielding Decision								Tech Refresh				LCMR Life Cycle Sustainment				PICA EOS				PICA EOS																							
Capabilities / Requirements																																												
Systems Engineering																																												
Logistics																																												
Major Contract Events	CAD																																											
Test & Evaluation																																												
Cost	Update CARD				Update LRFES				Update LCCE																																			
IA	TPS ATO				FF ATO				TPS ATO				FF ATO				TPS ATO				FF ATO				FF ATO																			
	LCMR IAT				LCMR ATO				LCMR ATO				LCMR ATO				LCMR ATO				LCMR ATO				LCMR ATO																			
	FISMA Reporting				FISMA Reporting				FISMA Reporting				FISMA Reporting				FISMA Reporting				FISMA Reporting				FISMA Reporting																			

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy

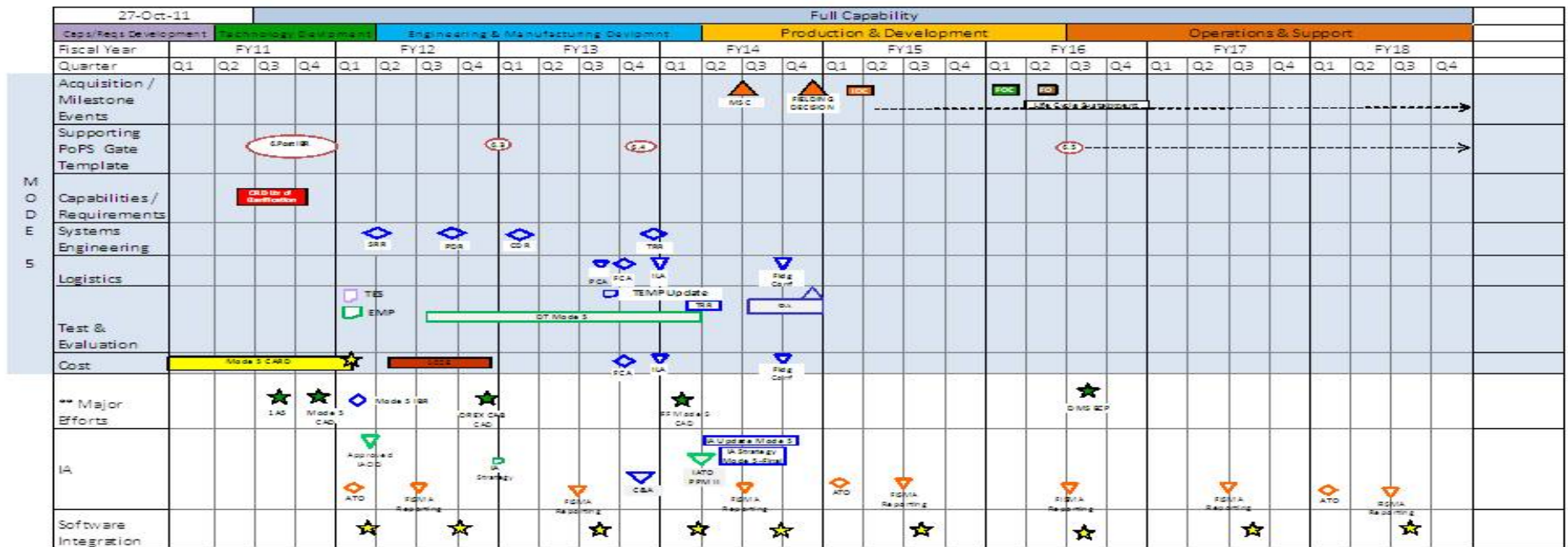
DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0206313M: Marine Corps Comms Systems

PROJECT
 3099: Radar System

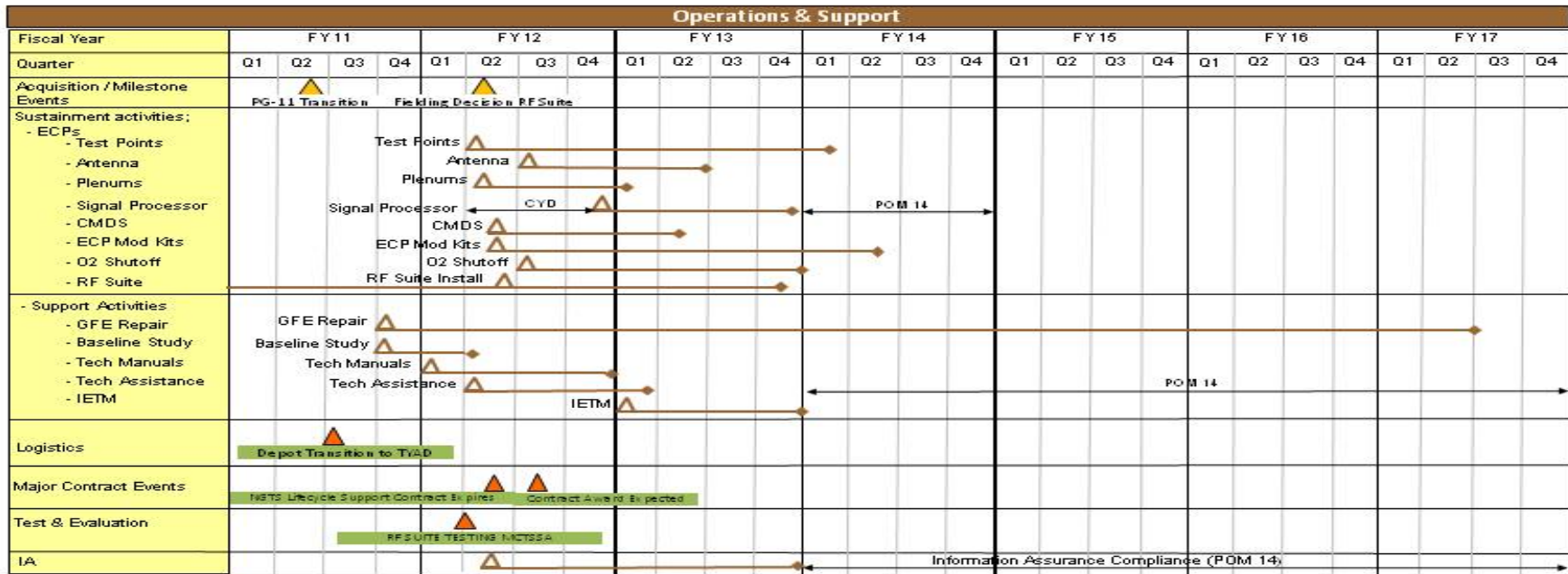
TPS-59



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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0206313M: Marine Corps Comms Systems	PROJECT 3099: Radar System

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 3099: <i>Radar System</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 3099				
AN/TPS-59 PPM I IOC	4	2011	4	2011
AN/TPS-59 PPM I FOC	2	2012	2	2012
AN/TPS-59 PPM II MS-C	2	2014	2	2014
AN/TPS-59 PPM II IOC	1	2015	1	2015
AN/TPS-59 PPM II FOC	1	2016	1	2016
FTAS TPS Fielding Decision	2	2011	2	2011
FTAS TPS IOC	2	2011	2	2011
FTAS TPS FOC	4	2011	4	2011

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 9C89: <i>Marine Ground-Air Radar</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
9C89: <i>Marine Ground-Air Radar</i>	57.813	106.654	-	-	-	-	-	-	-	0.000	164.467
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Ground/Air Task Oriented Radar (G/ATOR) (formerly known as the Multi-Role Radar System (MRRS)) is an expeditionary, 3-dimensional, high-mobility, multi-purpose wheeled vehicle, short/medium range multi-role radar designed to detect cruise missiles, air breathing targets, rockets, mortars, and artillery. MRRS and GWLR (Ground Weapons Locating Radar) merged into a single requirement/capability (G/ATOR) and will replace an aging fleet of single mission legacy radar systems. G/ATOR will support air defense, air surveillance, counter-battery/target acquisition, aviation radar tactical enhancements and the final evolution will also support the Air Traffic Control mission. This project was funded under project C3099 prior to FY 2010 and was moved to Program Element 0204460M/ Project 9C89 beginning in FY13.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<p>Title: *G/ATOR: Contractor Technical, Development Engineering/EDM</p> <p align="right">Articles:</p>	42.090 0	77.682 0	-	-	-
<p>FY 2011 Accomplishments: Finished REG Integration and Test (I&T), conduct Software Qualification Testing (SQT) and start System I&T and Performance Qualification Testing (PQT).</p> <p>FY 2012 Plans: Finish System I&T, conduct Environmental Qualification Test (EQT), finish PQT, deliver Engineering Development Model (EDM) to the Government (DD250 sign off), start Anti-Tamper (AT) planning, assist the government in development of the LRIP configuration in support of Transition to LRIP, conduct Production Readiness Review (PRR) and begin producibility enhancement efforts to include design, prototype development and integration/regression testing of Gallium Nitride (GaN) based Transmit/Receive (T/R) modules and associated technology insertion efforts.</p>					
<p>Title: *G/ATOR: Test and Evaluation</p> <p align="right">Articles:</p>	2.822 0	9.200 0	-	-	-
<p>FY 2011 Accomplishments: Finished REG Integration and Test (I&T), conduct Software Qualification Testing (SQT), start Performance Qualification Testing (PQT).</p> <p>FY 2012 Plans:</p>					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 9C89: <i>Marine Ground-Air Radar</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Finish System I&T, conduct Environmental Qualification Test (EQT), finish PQT, provide support for the beginning of Developmental Testing 1B (DT1B).					
Title: *G/ATOR: Program Office Management & Travel Costs <div style="text-align: right;">Articles:</div>	0.150 0	0.357 0	-	-	-
FY 2011 Accomplishments: Continued travel efforts in support of system development and test. FY 2012 Plans: Continue travel efforts in support of system development and test.					
Title: *G/ATOR: Government Technical Support <div style="text-align: right;">Articles:</div>	7.151 0	10.627 0	-	-	-
FY 2011 Accomplishments: Continued support from these activities to enable program execution; MITRE, NSWC Dahlgren, NSWC Crane, NSWC PHD, MARCORSSYSCOM and MCOTEA FY 2012 Plans: Continue support from these activities to enable program execution; MITRE, NSWC Dahlgren, NSWC Crane, NSWC PHD, MARCORSSYSCOM and MCOTEA					
Title: *G/ATOR: Engineering, Management, & Logistics Support <div style="text-align: right;">Articles:</div>	5.600 0	8.788 0	-	-	-
FY 2011 Accomplishments: Continued engineering, management & logistics program office support from General Dynamics Information Technology (GDIT). FY 2012 Plans: Finish engineering, management & logistics program office support under existing CEOSS contract with GDIT. Award new contract and continue engineering, management & logistics program office support with new CEOSS contract vehicle.					
Accomplishments/Planned Programs Subtotals	57.813	106.654	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 9C89: <i>Marine Ground-Air Radar</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PMC/465000: <i>GRND/AIR TASK ORIENTED RADAR</i>	0.000	4.246	90.348	0.000	90.348	109.025	80.310	254.185	258.581	Continuing	Continuing

D. Acquisition Strategy

The Ground/Air Task Oriented Radar (G/ATOR), formerly known as Multi-Role Radar System (MRRS) will fill the MRRS and GWLR requirements. Five legacy systems (AN/TPS-63, AN/UPS-3, AN/MPQ-62, AN/TPS-73 and AN/TPQ-46A) will be replaced by a single material design that offers an opportunity to reduce development cost and combine training and logistics assets. MRRS Aviation systems replace the AN/TPS-63, AN/MPQ-62 and AN/TPS-73 systems, as well as additional systems in support of the Short Range Air Defense (SHORAD) mission; MRRS Ground system is a one for one replacement of the AN/TPQ-46A. The Engineering Manufacturing Development (EMD) phase allows for technology insertion due to obsolescence and technology growth issues. As Tactical Enhancements become available, fielded systems will be backfitted. Two Engineering Development Models (EDM), (one Contractor, one Government), will be developed during the EMD phase and flowed down to support builds.

E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 9C89: <i>Marine Ground-Air Radar</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
G/ATOR	C/CPIF	NORTHROP GRUMMAN SYSTEMS CORPORATION:LINTHICUM HEIGHTS, MD	122.120	77.682	Dec 2011	-		-		-	0.000	199.802	
Subtotal			122.120	77.682		-		-		-	0.000	199.802	

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
G/ATOR	MIPR	MITRE:BOSTON, MA	1.322	1.733	Dec 2011	-		-		-	0.000	3.055	
G/ATOR	WR	NSWC-DAHLGREN:DAHLGREN, VA	13.545	7.774	Dec 2011	-		-		-	0.000	21.319	
G/ATOR	WR	NSWC-CRANE:CRANE, IN	1.190	0.284	Dec 2011	-		-		-	0.000	1.474	
G/ATOR	C/FP	MCSC:QUANTICO, VA	0.214	0.200	Dec 2011	-		-		-	0.000	0.414	
G/ATOR	C/CPIF	MCOTEA:QUANTICO, VA	0.662	-		-		-		-	0.000	0.662	
G/ATOR	WR	NSWC-PHD:DAM NECK, VA	-	0.569	Dec 2011	-		-		-	0.000	0.569	
Subtotal			16.933	10.560		-		-		-	0.000	27.493	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
G/ATOR	C/CPIF	MCOTEA:QUANTICO, VA	0.672	0.700	Dec 2011	-		-		-	0.000	1.372	
G/ATOR	C/FP	GENERAL DYNAMICS:STAFFORD, VA	0.950	0.600	Dec 2011	-		-		-	0.000	1.550	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 9C89: <i>Marine Ground-Air Radar</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
G/ATOR	WR	NSWC-CORONA:CORONA, CA	0.418	0.300	Dec 2011	-		-		-	0.000	0.718	
G/ATOR	MIPR	US ARMY ABERDEEN:PROVING GROUND, MD	0.450	1.600	Dec 2011	-		-		-	0.000	2.050	
G/ATOR	MIPR	MARINE CORP AIR STATION:YUMA, AZ	0.350	2.200	Feb 2012	-		-		-	0.000	2.550	
G/ATOR	MIPR	MCTSSA:CAMP PENDLETON, CA	-	2.200	Dec 2011	-		-		-	0.000	2.200	
G/ATOR	MIPR	NAVAL SURFACE WEAPONS COMBAT CNTR:WALLOPS ISLAND, VA	-	1.600	Dec 2011	-		-		-	0.000	1.600	
Subtotal			2.840	9.200		-		-		-	0.000	12.040	

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
G/ATOR	C/FP	MCSC:MCSC-QUANTICO, VA	-	8.350	Dec 2011	-		-		-	0.000	8.350	
G/ATOR	Various	MCSC:QUANTICO, VA	0.300	0.424	Sep 2012	-		-		-	0.000	0.724	
G/ATOR	C/FP	GENERAL DYNAMICS:STAFFORD, VA	12.587	-		-		-		-	0.000	12.587	
GATOR	C/FP	MCSC:QUANTICO, VA	0.411	0.438	Dec 2011	-		-		-	0.000	0.849	
Subtotal			13.298	9.212		-		-		-	0.000	22.510	

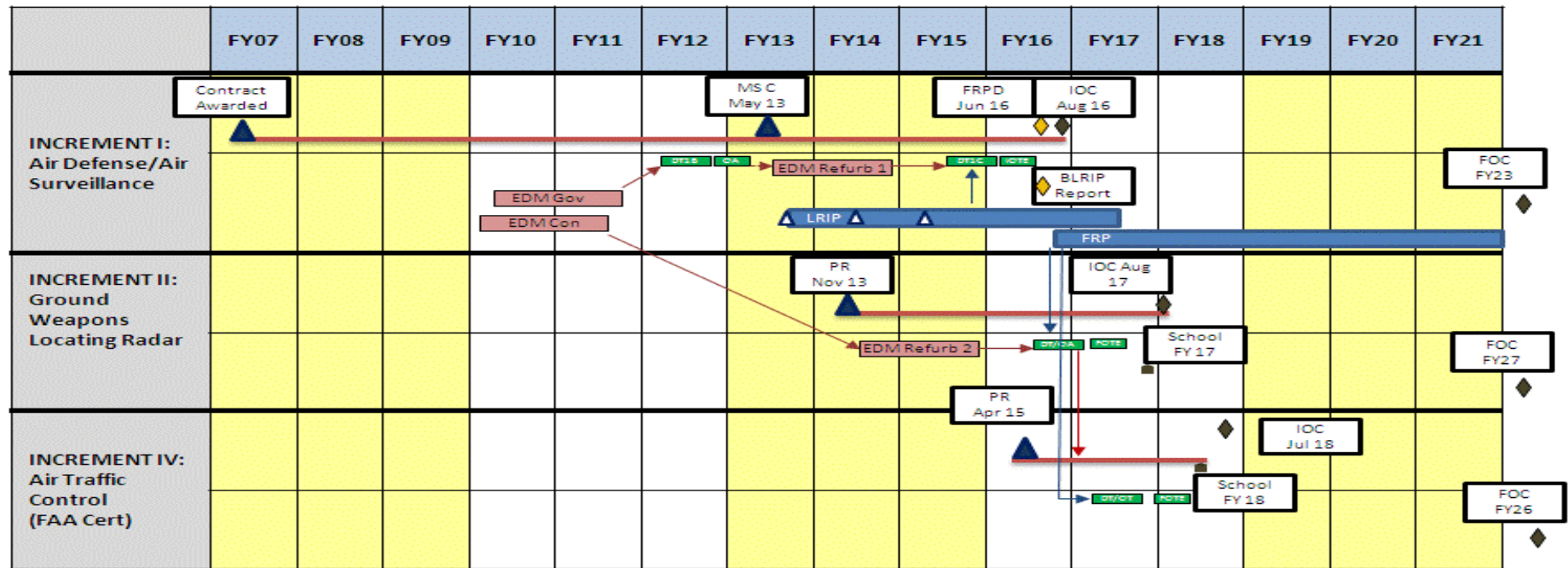
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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy							DATE: February 2012				
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>			R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>			PROJECT 9C89: <i>Marine Ground-Air Radar</i>					
	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	155.191	106.654		-		-		-	0.000	261.845	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy											DATE: February 2012				
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development						R-1 ITEM NOMENCLATURE PE 0206313M: Marine Corps Comms Systems					PROJECT 9C89: Marine Ground-Air Radar				



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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206313M: <i>Marine Corps Comms Systems</i>	PROJECT 9C89: <i>Marine Ground-Air Radar</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 9C89				
Defense/Air Surveillance AS/AD Capability System Demonstration (DT)(1B)	2	2012	4	2012
Defense/Air Surveillance AS/AD Capability System Demonstration (DT/OT)(1C)	3	2015	1	2016
Defense/Air Surveillance AS/AD Capability Operational Assessment (OA)	4	2012	1	2013
Defense/Air Surveillance AS/AD Capability Low Rate Initial Production (LRIP)	3	2013	3	2017
Defense/Air Surveillance AS/AD Capability Milestone C	3	2013	3	2013
Defense/Air Surveillance AS/AD Capability (IOT&E)	2	2016	2	2016
Defense/Air Surveillance AS/AD Capability (IOC)	4	2016	4	2016
Defense/Air Surveillance AS/AD Capability Full Rate Production Decision	4	2016	4	2016

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	77.622	159.396	181.693	-	181.693	234.948	178.947	166.168	124.002	Continuing	Continuing
0021: <i>Assault Amphibious Vehicle 7A1</i>	8.698	25.776	37.160	-	37.160	43.412	32.861	14.552	6.152	Continuing	Continuing
1555: <i>Lt Armored Vehicle Prog</i>	11.866	39.954	35.859	-	35.859	20.790	8.866	9.005	9.089	Continuing	Continuing
1901: <i>MC Grnd Wpnry Prod Improvement</i>	11.193	10.670	12.737	-	12.737	12.281	9.981	7.627	5.874	Continuing	Continuing
2086: <i>Soldier/Marine Enhancement</i>	4.398	5.324	3.041	-	3.041	6.178	5.235	5.357	5.425	Continuing	Continuing
2237: <i>Amphibious Vehicle Test</i>	0.915	0.934	0.933	-	0.933	0.953	0.965	0.981	0.995	Continuing	Continuing
2315: <i>Training Devices/Simulators</i>	2.315	14.642	19.492	-	19.492	14.858	11.859	12.064	10.687	Continuing	Continuing
2503: <i>Initial Issue</i>	12.840	6.888	8.244	-	8.244	9.205	7.914	7.959	8.202	Continuing	Continuing
2513: <i>Body Armor</i>	-	5.332	3.692	-	3.692	5.608	4.841	4.919	5.037	Continuing	Continuing
2928: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>	1.523	1.946	2.353	-	2.353	2.405	2.448	2.488	2.548	Continuing	Continuing
3098: <i>Fire Support System</i>	13.965	27.219	17.785	-	17.785	26.612	12.681	9.021	6.619	Continuing	Continuing
4002: <i>Family of Raid Reconnaissance</i>	3.288	0.801	0.668	-	0.668	0.530	0.540	0.552	0.562	Continuing	Continuing
9C85: <i>Marine Personnel Carrier (MPC)</i>	6.621	19.910	39.729	-	39.729	92.116	80.756	91.643	62.812	Continuing	Continuing

A. Mission Description and Budget Item Justification

This PE provides modification to Marine Corps Expeditionary Ground Force Weapon Systems to increase lethality, range, survivability and operational effectiveness. It also provides for the development of AAV7A1 reliability, maintainability, operational and safety modifications, improvements in command and control, and product improvements to the family of LAVs. The AVTB provides facilities and personnel which perform a broad range of testing, repair and technical services to amphibious vehicles. This program is funded under Operational Systems Development Program Element (PE) because it encompasses engineering and manufacturing and manufacturing development for upgrades of existing systems.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>
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B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	100.424	209.396	275.998	-	275.998
Current President's Budget	77.622	159.396	181.693	-	181.693
Total Adjustments	-22.802	-50.000	-94.305	-	-94.305
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-50.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	3.095	-			
• SBIR/STTR Transfer	-1.496	-			
• Program Adjustments	-	-	-94.185	-	-94.185
• Rate/Misc Adjustments	-0.001	-	-0.120	-	-0.120
• Congressional General Reductions Adjustments	-0.400	-	-	-	-
• Congressional Directed Reductions Adjustments	-24.000	-	-	-	-

Change Summary Explanation

FY 11 decreases are due to Congressional marks issued because of contract delays in both the LAV-AT program and program delays in the MPC program.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>				PROJECT 0021: <i>Assault Amphibious Vehicle 7A1</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
0021: <i>Assault Amphibious Vehicle 7A1</i>	8.698	25.776	37.160	-	37.160	43.412	32.861	14.552	6.152	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

AAV lifecycle and safety support and Primary Item Control Agent (PICA) functions. Funding to integrate Survivability upgrades to the AAV. AAV Family of Vehicles (FOV) Survivability Program: Capabilities based upgrade program centered on material upgrades in survivability to include, but not limited to, blast mitigating seats, belly/sponson armor, spall liner, deck liner, and external fuel tank.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<p>Title: *AAV (FOV) Survivability Program</p> <p align="right">Articles:</p> <p>Description: AAV (FOV) Survivability: MCCDC published a new requirement for AAV Survivability in June 2010. These capabilities center on material upgrades in survivability that include, but are not limited to, blast mitigating seats, belly/sponson armor, spall liner, deck liner, and external fuel tank.</p> <p>FY 2012 Plans: Initiate development of material upgrades in survivability that include, but are not limited to, blast mitigating seats, belly/sponson armor, spall liner, deck liner, and external fuel tank.</p>	-	3.843 0	-	-	-
<p>Title: *PM AAV Operations Support:</p> <p align="right">Articles:</p> <p>Description: AAV Operations Support: Evaluation and testing of safety improvements and fact-of-life changes to maintain the AAV Family of Vehicles (FOV).</p> <p>FY 2011 Accomplishments: Continue Engineering and safety fact-of-life changes to the FOV.</p> <p>FY 2012 Plans: Continue Engineering and safety fact-of-life changes to the FOV.</p> <p>FY 2013 Base Plans:</p>	8.698 0	1.933 0	2.430 0	-	2.430 0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 0021: <i>Assault Amphibious Vehicle 7A1</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
AAV Operations Support: Evaluation and testing of safety improvements and fact-of-life changes to maintain the AAV Family of Vehicles (FOV).					
Title: AAV Upgrade <div style="text-align: right;">Articles:</div>	-	20.000 0	34.730 0	-	34.730 0
Description: AAV Upgrade will improve the legacy AAV and extend its service life until replaced by the Amphibious Combat Vehicle (ACV) and Marine Personnel Carrier (MPC). Capability improvements include increased mobility, survivability, lethality, C4I/situational awareness, environment/habitability and logistics.					
FY 2012 Plans: Initiate capability improvements to include increased mobility, survivability, lethality, C4I/situational awareness, environment/habitability and logistics. Requirements refinement using Government labs to validate concepts and material solution approaches.					
FY 2013 Base Plans: Continuing automotive and suspension improvements as well as potential water speed improvement. Supporting efforts include continuing survivability efforts. Lethality investigations in support of common weapon system, mount and or controls.					
Accomplishments/Planned Programs Subtotals	8.698	25.776	37.160	-	37.160

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013 Base</u>	<u>FY 2013 OCO</u>	<u>FY 2013 Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• PMC/2021: AAV Mods/SLEP	17.709	9.894	16.089	0.000	16.089	32.461	53.845	84.035	104.193	24.915	1,227.514

D. Acquisition Strategy

The USMC intends to competitively award a contract to procure 392 upgraded Assault Amphibious Vehicles. The Upgrades' main focus is on improving the survivability and Marine force protection capabilities. To support the required capabilities, the Upgrade program will seek to incorporate Non-Developmental Item (NDI) and/or Commercial off the Shelf (COTS) solutions into the existing AAVP7A1 RAM/RS. When possible, these mature systems and components will be procured as part of a larger multi-service and multi-platform procurement that leverages economy of scale, commonality, and reduced life cycle costs. The acquisition strategy seeks to minimize cost and schedule while maximizing value, technology readiness, and commonality while ensuring the selected manufacturer meets the capability attributes established for the AAVP7A1 RAM/RS. R&D will fund a competitive downselect with MSB in FY 13 followed by EMD and production. IOC is currently scheduled for FY17.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 0021: <i>Assault Amphibious Vehicle 7A1</i>

E. Performance Metrics

Milestone Reviews

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 0021: <i>Assault Amphibious Vehicle 7A1</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Casualty Scoring	WR	TBD:TBD	-	0.010	Feb 2012	-		-		-	0.000	0.010	
Upgrade Trade Study	C/CPFF	4 Vendors:TBA	-	1.000	Apr 2012	-		-		-	0.000	1.000	
Hydrodynamic/Hydrostatic Upgrade	WR	NSWC Carderock: Bethesda, MD	-	0.271	Jan 2012	-		-		-	0.000	0.271	
EMD	C/PIF	TBD:TBD	-	-		4.000	Aug 2013	-		4.000	26.307	30.307	
Intersom Integration	TBD	TBD:TBD	-	0.400	Apr 2012	-		-		-	0.000	0.400	
Upgrades to ECPs	C/CPFF	BAE Systems: Stafford, VA	34.731	2.065	Mar 2012	-		-		-	5.873	42.669	
S1000 Support	WR	NSWC Carderock: Bethesda, MD	-	0.245	Mar 2012	-		-		-	0.000	0.245	
S1000 Support	WR	NAVAIRSYSCOM: Alexandria, VA	-	0.175	Mar 2012	-		-		-	0.000	0.175	
Turret Hatch Improvement	WR	MarcorSyscom: Quantico, VA	-	1.200	Feb 2012	-		-		-	0.000	1.200	
DMSMS	WR	Naval Undersea Warfare Center: Puget Sound, WA	-	0.198	Jan 2012	-		-		-	0.000	0.198	
Tactical Radio Refresh	WR	TBD:TBD	-	0.879	Apr 2012	2.000	Feb 2013	-		2.000	0.000	2.879	
Systems Design and Development	C/BA	TBD:TBD	-	-		20.677	Mar 2013	-		20.677	0.000	20.677	
Subtotal			34.731	6.443		26.677		-		26.677	32.180	100.031	

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 Engineering Spt	C/CPFF	BAE Systems: Stafford, VA	24.827	2.027	Apr 2012	-		-		-	0.000	26.854	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 0021: <i>Assault Amphibious Vehicle 7A1</i>
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Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Modeling Development/ProE	WR	SPAWAR:Charleston, SC	2.000	10.606	Jan 2012	-		-		-	0.000	12.606	
Technical Engineering Spt	C/CPFF	TBA:TBA	-	-		2.885	Feb 2013	-		2.885	2.000	4.885	
Digital Integration Facility	PO	SPAWAR:Charleston, SC	-	0.800	Jan 2012	1.500	Jan 2013	-		1.500	0.000	2.300	
Subtotal			26.827	13.433		4.385		-		4.385	2.000	46.645	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Analysis of EDMS	WR	NATC:Reno, NV	-	-		-		-		-	1.000	1.000	
Developmental/Eval Test	WR	MCOTEA/ AVTB:Quantico, VA/ Cammpan	1.028	-		-		-		-	1.000	2.028	
Live Fire Dev Test	MIPR	ATC:Aberdeen, MD	-	-		-		-		-	3.000	3.000	
T-161 Track Test	WR	AVTB:Camp Pendleton, CA	-	0.600	May 2012	-		-		-	0.000	0.600	
Studies and Analysis of Upgrade	C/BA	TBD:TBD	-	-		0.500	May 2013	-		0.500	0.000	0.500	
Subtotal			1.028	0.600		0.500		-		0.500	5.000	7.128	

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Documentation Mgmt	C/CPFF	BAE Systems:Stafford, VA	4.287	0.433	Apr 2012	-		-		-	0.000	4.720	
Documentation Mgmt	C/CPFF	TBA:TBA	-	-		0.452	Mar 2013	-		0.452	0.000	0.452	
Management Support	C/CPFF	CEOss:Quantico, VA	0.500	4.867	Mar 2012	4.909	Mar 2013	-		4.909	5.077	15.353	

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 0021: <i>Assault Amphibious Vehicle 7A1</i>
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Proj 0021	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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
					CDD			MDD				MS B																
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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 0021: <i>Assault Amphibious Vehicle 7A1</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 0021				
AAV MDD	4	2012	4	2012
CDD	2	2012	2	2012
MS B	4	2013	4	2013
EMD CONTRACT AWARD	4	2013	4	2013
EMD	4	2013	4	2014
PDR	1	2014	1	2014
CDR	3	2014	3	2014
MS C (LRIP)	3	2015	3	2015
OA	2	2015	3	2015
LRIP	4	2015	2	2016
IOTE	4	2016	1	2017

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1555: <i>Lt Armored Vehicle Prog</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
1555: <i>Lt Armored Vehicle Prog</i>	11.866	39.954	35.859	-	35.859	20.790	8.866	9.005	9.089	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Light Armored Vehicle Family of Vehicles (LAV FOV) consists of six fielded LAV configurations, and one communications/intelligence-configured asset on a LAV chassis. The LAV FOV provides a logistically self-contained, highly mobile, and lethal combined arms combat system to the Marine Air-Ground Task Force (MAGTF). The LAV Product Improvement Program funds the development and testing of modifications of four programs; the LAV Modification Program, the LAV Anti-Tank System Program, the LAV Survivability Upgrades Program, and the LAV Indirect Fire Modernization Program. These programs will ensure that the LAV FOV will be capable of conducting its assigned missions by enhancing lethality and survivability; reliability, availability, maintainability and durability; as well as reducing operations and support costs.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: LAV MODIFICATIONS	3.853	8.314	7.495	-	7.495
Articles:	0	0	0		0
FY 2011 Accomplishments: Research and development of numerous LAV Modification projects to address minor modifications, safety, survivability, and obsolescence issues. Electrical Upgrade Phase 3, Full system Live Fire Testing.					
FY 2012 Plans: Research and development of numerous LAV Modification projects to address minor modifications, safety, survivability, and obsolescence issues. Electrical Upgrade Phase 4/Armored Mounts/Light Weight Hatches/Blast Shields for Vehicle Commanders and Feed Chute End Connectors.					
FY 2013 Base Plans: Research and development of numerous LAV Modification projects to address minor modifications, safety, survivability, and obsolescence issues. High Capacity Light Weight Self Recovery Winch/Lighter Weight Underbelly Kit/Live Fire Testing for the Light Weight Hatches, Doors and Underbelly Kits/Dual Purposed 25mm Round.					
Title: LAV ANTI-TANK SYSTEM	8.013	10.910	9.602	-	9.602
Articles:	0	4	0		0
FY 2011 Accomplishments:					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1555: <i>Lt Armored Vehicle Prog</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
LAV-AT - MS-B Approval, RFP preparation and release, conduct Source Selection, Systems Requirements Review (SRR)#1, Engineering & Manufacturing Development contract award (Vehicle Integration). FY 2012 Plans: LAV-AT - Continued Engineering & Manufacturing Development contract (4 Prototypes & Vehicle Integration), Preliminary Design Review (PDR), Critical Design Review (CDR), Interfaces and Integration, Contractor Testing, Begin Developmental Testing Planning and Technical Readiness Review, SRR #2. FY 2013 Base Plans: LAV-AT - Complete design interface and prototype development, Developmental Testing, Technical Manual Updates, begin Operational Test planning and prepare MS-C documentation.					
Title: LAV SURVIVABILITY UPGRADES Articles:	-	7.641 4	18.762 4	-	18.762 4
FY 2012 Plans: LAV SURV UPGRADES Advanced Suspension - EMD Phase RFP Development, Milestone B Development, MS B, System Development RFP Release, Source Selection. Power Pack - ECP Development and integration. FY 2013 Base Plans: LAV SURV UPGRADES Advanced Suspension - EMD contract award, Developmental Testing planning, Technical Reviews, begin DT to include LFT&E, and conduct limited user evaluations.					
Title: LAV Indirect Fire Modernization Articles:	-	13.089 0	-	-	-
FY 2012 Plans: LAV Indirect Fire Modernization-EMD RFP Development, Market Survey, Milestone B Development.					
Accomplishments/Planned Programs Subtotals	11.866	39.954	35.859	-	35.859

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PMC/2038: LAV	78.675	171.013	196.216	0.000	196.216	166.917	188.778	149.287	248.229	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1555: <i>Lt Armored Vehicle Prog</i>

D. Acquisition Strategy

The LAV Modification program funds numerous low-dollar, yet extremely important minor modifications, support equipment and tools and other projects that increase LAV reliability and readiness while simultaneously reducing operations and support costs. The Marine Corps PM-LAV Modification Team uses multi-disciplined integrated project teams consisting of engineering, logistical, contracting and financial personnel to manage Modification projects. The majority of contracts issued under the Modification line are subject to the competitive acquisition process.

The LAV Anti-Tank System program will focus on full and open competition to integrate a new turret into the LAV-AT variant with options for production. The LAV-ATM is a replacement for the obsolete M901A1 turret to correct operational and readiness deficiencies. It will be capable of firing the current family of TOW missiles and be forward compatible with the next generation of heavy anti armor missiles. The program was approved in December of 2009 as part of the Material Development Decision to enter at MS-B based on the technical maturity of the capabilities required, schedule, and budget. Milestone B approval will lead to the Engineering & Manufacturing Development (EMD) phase. Once the EMD phase is complete, a combined MS C and Full Rate Production Review (FRPR) are planned to be followed by a tailored Production and Deployment Phase and Operations and Support Phase.

The LAV Survivability Upgrade program (Advanced Suspension Upgrades and Power Pack Replacement) will focus on full and open competition to integrate a new Advanced Suspension System into the Family of Light Armored Vehicles (FOLAV) with options for production. This program will further enhance the FOLAV survivability by improving the stand-off distance between the LAV and the ground while maintaining high mobility and automotive performance both on and off road. The program will use information from the Office of Naval Research (ONR) effort of a "Rolling Down Select" of potential competitors with a Technology Readiness Level target of TRL7. The Power Pack effort will require ECP development, integration and testing of the new OEM recommended power pack replacement that will be used in future new production vehicles. The current power pack will be obsolete and must be replaced in the LAV fleet.

The Indirect Fire Modernization program will acquire and integrate an NDI Mortar system (ordnance and fire control system) into the refurbished existing LAV-Mortar variant chassis. The LAV Indirect Fire Modernization is an enhancement for the M252 81mm mortar of the LAV-M variant to correct operational effectiveness deficiencies. The LAV-M will have greater range, and improved responsiveness. Finalized Acquisition strategy, Acquisition Program Baselines and Test & Evaluation Master Plans will be prepared during MS B.

E. Performance Metrics

Milestone Reviews

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1555: <i>Lt Armored Vehicle Prog</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 DEV/PROTOTYPES (Surv Upgrades)	C/CPFF	TBD:TBD	-	4.023	May 2012	4.997	Mar 2013	-		4.997	0.000	9.020	
SYS DEV/PROTOTYPES(Indirect Fire)	C/CPFF	TBD:TBD	-	6.774	Jun 2012	-		-		-	0.000	6.774	
ILS DATA DEVELOPMENT (Indirect Fire)	C/CPFF	TBD:TBD	-	2.089	Aug 2012	-		-		-	0.000	2.089	
PRODUCT DEV. (MOD)	C/CPFF	TBD:TBD	6.648	6.744	May 2012	5.999	Mar 2013	-		5.999	Continuing	Continuing	Continuing
SYS DEV/PROTOTYPES(Anti-Tank)	C/CPFF	TBD:TBD	9.074	3.582	Mar 2012	0.535	Nov 2012	-		0.535	Continuing	Continuing	Continuing
ILS DATA DEVELOPMENT (Anti-Tank)	C/CPFF	TBD:TBD	-	1.497	Mar 2012	3.102	Nov 2012	-		3.102	Continuing	Continuing	Continuing
Subtotal			15.722	24.709		14.633		-		14.633			

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 Mgmt (Surv Upgrades)	MIPR	TACOM:Warren, MI	-	1.742	Nov 2011	1.659	Oct 2012	-		1.659	0.000	3.401	
Program Mgmt (Indirect Fire)	MIPR	TACOM:Warren, MI	-	3.992	Nov 2011	-		-		-	0.000	3.992	
Program Mgmt (MOD)	MIPR	TACOM:Warren, MI	0.292	0.591	Jan 2012	0.614	Oct 2012	-		0.614	Continuing	Continuing	Continuing
Program Mgmt (Anti-Tank)	MIPR	TACOM:Warren, MI	2.587	1.354	Nov 2011	1.402	Oct 2012	-		1.402	Continuing	Continuing	Continuing
Subtotal			2.879	7.679		3.675		-		3.675			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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/Oper. T&E (Indirect Fire)	MIPR	TBD:TBD	-	-		-		-		-	0.000	0.000	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1555: <i>Lt Armored Vehicle Prog</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Devl/Oper. T&E (Surv. Upgrades)	MIPR	TBD:TBD	-	1.657	Jun 2012	11.882	Apr 2013	-		11.882	0.000	13.539	
Test Equipment (Indirect Fire)	C/FP	TBD:TBD	-	0.014	Sep 2012	-		-		-	0.000	0.014	
Devl/Oper. T&E (MOD)	MIPR	TBD:TBD	0.837	0.720	Jun 2012	0.666	Mar 2013	-		0.666	Continuing	Continuing	Continuing
Devl/Oper. T&E (Anti-Tank)	MIPR	TBD:TBD	-	3.853	Jun 2012	3.875	Oct 2012	-		3.875	Continuing	Continuing	Continuing
Subtotal			0.837	6.244		16.423		-		16.423			

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Tech. Eng. Services (Indirect Fire)	C/FP	TBD:TBD	-	0.220	May 2012	-		-		-	0.000	0.220	
Tech. Eng. Services (Surv. Upgrades)	C/FP	TBD:TBD	-	0.219	May 2012	0.224	May 2013	-		0.224	0.000	0.443	
Tech. Eng. Services (MOD)	C/FP	TBD:TBD	0.199	0.259	May 2012	0.269	May 2013	-		0.269	Continuing	Continuing	Continuing
Tech. Eng. Services (Anti-Tank)	C/FP	TBD:TBD	2.258	0.624	May 2012	0.635	May 2013	-		0.635	Continuing	Continuing	Continuing
Subtotal			2.457	1.322		1.128		-		1.128			

	Total Prior Years Cost	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		21.895	39.954	35.859	-		35.859	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1555: <i>Lt Armored Vehicle Prog</i>
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LAV Survivability Upgrades (Advanced Suspension)	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017							
	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				

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1555: <i>Lt Armored Vehicle Prog</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>LAV Anti-Tank Modernization</i>				
IOC	4	2016	4	2016
MS-B	1	2011	3	2011
Developmental Testing	1	2013	1	2014
Operational Testing	2	2014	4	2014
MS-C	4	2014	4	2014
Production Contract Award	4	2014	4	2014
<i>LAV Survivability Upgrades (Advanced Suspension)</i>				
Production Contract Award	1	2015	1	2015
Operational Testing	4	2014	1	2015
Developmental Testing	4	2013	4	2014
MS-C	1	2015	1	2015
MS-B	3	2012	3	2012

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>				PROJECT 1901: <i>MC Grnd Wpnry Prod Improvement</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
1901: <i>MC Grnd Wpnry Prod Improvement</i>	11.193	10.670	12.737	-	12.737	12.281	9.981	7.627	5.874	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 joint and Marine Corps unique improvements to infantry weapons technology, non-lethal systems technology, improvements for Night Vision Equipment, Rifle Combat Optics, Family of Individual Optics, and monitors national and international weapons developments.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Company and Battalion Mortars.	0.498	0.509	-	-	-
Articles:	0	0			
Description: This funding is used to provide system development and demonstration, pre-Milestone C activities, and purchasing Non-developmental Items (NDI) for testing and evaluation of candidate systems and modifications for Company and Battalion Mortars.					
FY 2011 Accomplishments: This funding will be used to conduct determination testing on inconel (metal alloys in high temperature applications) cannons in order to define firm condemnation criteria.					
FY 2012 Plans: This funding will be used to conduct destructive testing on inconel cannons in order to define firm condemnation criteria.					
Title: Infantry Weapons Mods.	1.329	1.242	1.257	-	1.257
Articles:	0	0	0		0
Description: The Infantry Weapons Modification program develops joint and Marine Corps unique improvements to infantry weapons and fire support technology. The improvements address critical operational and logistics deficiencies in fielded infantry weapon systems and equipment. The funding permits economical level-of-effort project participation to analyze, design, develop, and field modifications. This level-of-effort funding line allows timely response to safety and performance issues that require immediate attention to maintain operational readiness.					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1901: <i>MC Grnd Wpnry Prod Improvement</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
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<p><i>FY 2011 Accomplishments:</i> The Infantry Weapons Modification program is supporting reliability testing on Quick Change Barrels for M2 Heavy Machine Guns. It will also be used for testing of suppressors, buttstocks, and floating barrels on rifles used by USMC Infantry.</p> <p><i>FY 2012 Plans:</i> The Infantry Weapons Modification program will test suppressors, collapsible buttstocks, and floating barrels on various rifles used by Infantry Marines to evaluate their performance as compared to requirements. It will also evaluate performance of various types of ammunition currently under development. The funding will permit economical level-of-effort project participation, to analyze, design, develop, and field modifications.</p> <p><i>FY 2013 Base Plans:</i> The Infantry Weapons Modification program will continue to develop joint and Marine Corps unique improvements to infantry weapons and fire support technology. The improvements will address critical operational and logistics deficiencies in fielded infantry weapon systems and equipment. The funding will permit economical level-of-effort project participation, to analyze, design, develop, and field modifications. This level-of-effort funding line will allow timely response to safety and performance issues that require immediate attention to maintain operational readiness.</p>					
<p><i>Title:</i> Mission Payload Module (MPM).</p> <p align="right"><i>Articles:</i></p> <p><i>Description:</i> New weapon system that launches non-lethal payloads to greater ranges with broader area coverage, a greater duration of effects, and volume of fire. This will be initially deployed from the Marine Corps Transparent Armored Gun Shield (MCTAGS). MPM will deliver counter-personnel, non-lethal effects applicable to controlling crowds, denying/defending areas, controlling access, and engaging threats.</p> <p><i>FY 2011 Accomplishments:</i> Conducted Government confirmation tests to evaluate the effectiveness and Risk of Significant Injury (RSI) of the Vendors' non-lethal munitions designs. The tests were performed to determine the threshold levels of light, sound, heat, blast overpressure and fragmentation produced by the contractor's munitions. The data was analyzed using Government developed models through the Joint Non-Lethal Weapons Directorate (JNLWD), Human Center of Excellence (HECOE) to determine the level of suppression and RSI achieved by munitions. Additionally, the Government evaluated the technical adequacy of the proposed system design to ensure that</p>	2.568 0	1.920 0	4.606 0	-	4.606 0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1901: <i>MC Grnd Wpnry Prod Improvement</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<p>the technology within the proposed system design met the performance specifications described in the SPS and that readiness level of the technology presented was at a Technology Readiness Level (TRL) of 6 or greater.</p> <p>FY 2012 Plans: To issue a new Request for Proposal for a full and open competition to transition the program to the Engineering and Manufacturer Development (EMD) phase during 1st Quarter FY12. Contract award to a single contractor is anticipated following a favorable Milestone B decision. The planned FY 2012 efforts will include, but are not limited, a System Requirement Review, and Preliminary Design Review</p> <p>FY 2013 Base Plans: Finalize system design and conduct pre-developmental test activities to determine system readiness for developmental testing. Pre-developmental test activities will include system and subsystems level testing, early operational assessment (EOA), Functional Configuration Audit (FCA), and proof of principle demonstration by the contractor. In conjunction with finalizing system design, a Level of Repair Analysis (LORA) and Failure Mode and Effects Analysis (FMECA) will be conducted, development of operator and maintenance manuals, as well as conducting Instructor & Key Personnel Training (I&KPT) in support of EOA.</p>					
<p>Title: Night Vision Mod Line. (NVM)</p> <p align="right">Articles:</p> <p>Description: The Night Vision Mod Line is a level of effort line and is used to research and develop potential modification kits and provide essential test and evaluation services to maintain and improve quality of service, performance, safety, and life-cycle support of legacy Principle End Items (PEIs). The NVM program provides a means of maintaining and upgrading the Marine Corps NVE through technological advances and to develop Engineering Change Proposals (ECPs) for legacy PEIs.</p> <p>FY 2011 Accomplishments: Joint participation and Marine Corps unique activities were conducted for evaluation of safety, lethality, weight reduction and technology improvements for Marine Corps night vision devices. A detailed reliability analysis/prediction was conducted to look at both the physics and the statistical failures of night vision devices to accurately predict the life expectancy of legacy systems. Further upgrades to I2 devices were pursued to provide the war-fighter with a potential fused solution upgrade to currently fielded equipment.</p> <p>FY 2012 Plans:</p>	2.311 0	2.361 0	2.392 0	-	2.392 0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy			DATE: February 2012																				
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1901: <i>MC Grnd Wpnry Prod Improvement</i>																					
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)																							
Will conduct Joint participation as well as Marine Corps unique activities for evaluation of safety, lethality, weight reduction and technology improvements for Marine Corps night vision devices.																							
FY 2013 Base Plans: Continued Joint participation and Marine Corps unique activities for evaluation of safety, lethality, weight reduction and technology improvements for Marine Corps night vision devices.																							
Title: Escalation of Force Equipment (EOFE)																							
Articles:																							
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;"></th> <th style="width: 10%;">FY 2011</th> <th style="width: 10%;">FY 2012</th> <th style="width: 10%;">FY 2013 Base</th> <th style="width: 10%;">FY 2013 OCO</th> <th style="width: 10%;">FY 2013 Total</th> </tr> </thead> <tbody> <tr> <td></td> <td align="right">0.142</td> <td align="right">0.054</td> <td align="right">0.300</td> <td align="center">-</td> <td align="right">0.300</td> </tr> <tr> <td></td> <td align="right">0</td> <td align="right">0</td> <td align="right">0</td> <td></td> <td align="right">0</td> </tr> </tbody> </table>							FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total		0.142	0.054	0.300	-	0.300		0	0	0		0
	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total																		
	0.142	0.054	0.300	-	0.300																		
	0	0	0		0																		
Description: The EoF-E program, a level of effort line, supports the Marine Corps requirement for Non-Lethal and Force Protection capabilities for use during escalation of force (EoF) situations. This program supports modification requirements based on upgrades, refurbishments and refreshments of existing kits, sets, and systems (e.g. LA-9/P,EoF-MM) to meet current and future needs to enhance system capabilities. This program also provides future escalation of force systems as they move to, and past full operational capability. Funding provides an enhanced set of EoF equipment for the MARFORs to meet CMCs Vision and Strategy 2025 that directs DC CD&I to Significantly increase the capacity and capability of non-lethal systems to limit collateral damage and lethal effects.																							
FY 2011 Accomplishments: Conducted testing on brackets that mount a non-lethal tube-launched munitions system (NL/TLMS) on a MRAP Vehicle and a M3 Machinegun-Tri-Pod.																							
FY 2012 Plans: To evaluate Light Emitting Diode(LED) light sets to greatly enhance the Vehicle Check Point (VCP) capability within the EoF-MM. This new capability will better illuminate the inspection area within a VCP which will greatly increase the Warfights ability to inspect and detect threats such as IEDs inside of vehicles.																							
FY 2013 Base Plans: Continue to fund system engineering and program management, system test and evaluation, development of engineering documentation, and Human Effects Center of Excellence support.																							
Title: Ocular Interruption (OI).																							
Articles:																							
<table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td></td> <td align="right">1.699</td> <td align="right">2.701</td> <td align="right">0.938</td> <td align="center">-</td> <td align="right">0.938</td> </tr> <tr> <td></td> <td align="right">0</td> <td align="right">0</td> <td align="right">0</td> <td></td> <td align="right">0</td> </tr> </tbody> </table>							1.699	2.701	0.938	-	0.938		0	0	0		0						
	1.699	2.701	0.938	-	0.938																		
	0	0	0		0																		

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1901: <i>MC Grnd Wpnry Prod Improvement</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<p>Description: Ocular Interruption (OI) is the replacement 'Dazzling Laser" program for the B.E. Meyers GBD-IIIC and the Glare Mount 532P-M (Mini Green) laser. OI will be an 'eye-safe' system that will be used in Escalation of Force Missions.</p> <p>FY 2011 Accomplishments: Funded system engineering and program management, system test and evaluation, development engineering, Human Effects Center of Excellence support and Engineering and Manufacturing Development Contract.</p> <p>FY 2012 Plans: Continue to fund system engineering and program management, system test and evaluation, development engineering, Human Effects Center of Excellence support and Engineering and Manufacturing Development Contract.</p> <p>FY 2013 Base Plans: Completion of contractor system level verification testing/demonstration.</p>					
<p>Title: Sniper System Capability Set (SSCS).</p> <p align="right">Articles:</p> <p>FY 2011 Accomplishments: Funded the testing of a modular stock for the M40A5 Sniper Rifle and an evaluation of the life cycle and endurance of the M110 Semi-Automatic Sniper System (SASS). Conducted testing for a longer range sniper rifle capability beyond that of the M40A5 Sniper Rifle.</p> <p>FY 2012 Plans: Funds will be used to conduct testing for a longer range sniper rifle capability outside of the M40A5 Sniper Rifle. Funds are planned to conduct testing for a lightweight barrel for the M40 Series Sniper Rifle. The current system has increased in weight since its fielding due to the addition of multiple ancillary items and the potential addition of a metal stock. The test will evaluate the feasibility of obtaining a shorter, lightweight barrel that allows the system to maintain an accuracy of 1.0 Minutes-of-Angle. In addition, funds will be used for testing to evaluate the probability of hit for the M40 Sniper Rifle.</p> <p>FY 2013 Base Plans: Funds will be used to conduct testing for a longer range sniper rifle capability outside of the M40A5 Sniper Rifle. Funds are planned to conduct testing for a lightweight barrel for the M40 Series Sniper Rifle. The current system has increased in weight since its fielding due to the addition of multiple ancillary items and the potential addition</p>	0.299 0	0.308 0	0.315 0	-	0.315 0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1901: <i>MC Grnd Wpnry Prod Improvement</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
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of a metal stock. The test will evaluate the feasibility of obtaining a shorter, lightweight barrel that allows the system to maintain an accuracy of 1.0 Minutes-of-Angle. In addition, funds will be used for testing to evaluate the probability of hit for the M40 Sniper Rifle.

<p>Title: Disable Point Target (DPT)</p> <p align="right">Articles:</p> <p>Description: Disable Point Target: The DPT will be employed during Escalation of Force (EoF) situations to control individuals by rendering the target incapable of defensive and offensive actions, with no direct contact between the Marine and the target(s). The DPT will incapacitate single or multiple personnel from beyond the range of thrown objects (i.e. bottles, rocks, etc.) with precision.</p> <p>FY 2013 Base Plans: Conduct TD Phase activities and obtain a Milestone B decision.</p>	-	-	1.298 0	-	1.298 0
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<p>Title: Family of Optical Systems. (FOS)</p> <p align="right">Articles:</p> <p>Description: Family of Optical Systems (FOS). Transitions Family of Individual Optics to Family of Optical Systems to encompass all Optical Systems into this program. Provides handheld, helmet mounted and weapons optics systems including various thermal, image intensifier, magnified optical, laser range-finding, illuminating, and pointer functionalities. Replaces multiple single-purpose Night Vision Equipment (NVE) fielded to the Marine Corps.</p> <p>FY 2011 Accomplishments: This funding was utilized to support improvements on the technology currently used and to develop enabling technology to be used in future optical systems. Research efforts evaluated the possibility of combining / integrating disparate sensor technology to increase the overall capability. One example was to combine the Infrared (IR) and Image Intensificaton (I2) technologies into one system. To enable future technology development, an Analysis of Alternatives is planned to be conducted.</p> <p>FY 2012 Plans: This funding will continue to be utilized to support improvements on the technology that is currently used and develop enabling technology to be used in future optical systems. Research efforts will continue to evaluate</p>	2.347 0	1.575 0	1.631 0	-	1.631 0
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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1901: <i>MC Grnd Wpnry Prod Improvement</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

the possibility of combining / integrating disparate sensor technologies to increase the overall capability. One example will be combining the (IR) and (I2) technologies into one system.

FY 2013 Base Plans:

Will continue to support improvements on the technology that is currently used and develop enabling technology to be used in future optical systems. Research efforts will continue to evaluate the possibility of combining / integrating disparate sensor technologies to increase the overall capability. One example will be combining the (IR) and (I2) technologies into one system.

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Accomplishments/Planned Programs Subtotals	11.193	10.670	12.737	-	12.737

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

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013 Base</u>	<u>FY 2013 OCO</u>	<u>FY 2013 Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• RDTEN/0603851M/2319: <i>CBG Non Lethal Weapons</i>	3.046	4.664	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	11.510
• PMC/220837: <i>Weapons Enhancement Program (EoF-E)</i>	19.253	1.372	1.661	0.000	1.661	1.428	0.138	1.481	1.506	0.000	36.317
• PMC/2208001: <i>Weapons Enhncmnt Program (MPM)</i>	0.000	0.000	0.000	0.000	0.000	0.000	6.044	7.152	2.330	Continuing	Continuing
• PMC/2208002: <i>Weapons Enhncmnt Program (OI)</i>	0.000	0.000	0.000	0.000	0.000	4.303	11.965	5.220	4.619	Continuing	Continuing
• PMC/493000: <i>Night Vision Equipment</i>	3.720	16.697	18.084	30.652	48.736	12.988	13.849	11.616	11.815	Continuing	Continuing
• PMC/220800: <i>Mission Payload Module-Reserves</i>	0.000	0.000	0.000	0.000	0.000	0.000	8.995	0.000	4.948	0.000	13.943

D. Acquisition Strategy

These programs range from off-the-shelf modifications to developmental items for safety, reliability, and technology up-grades to meet Marine Corps requirements.

E. Performance Metrics

Milestone Reviews

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1901: <i>MC Grnd Wpnry Prod Improvement</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Mission Payload Module	C/CPFF	TBD-EMD:Quantico	-	-		2.374	Jun 2013	-		2.374	Continuing	Continuing	Continuing
Ocular Interruption	Various	TBD-EMD:CONTRACT	0.673	0.226	Dec 2011	-		-		-	Continuing	Continuing	Continuing
Disable Point Target (DPT)	TBD	TBD:TBD	-	-		1.298	Sep 2013	-		1.298	Continuing	Continuing	Continuing
Ocular Interruption	Various	AFRL:San Antonio,TX	0.190	0.190	Feb 2012	0.215	Nov 2012	-		0.215	Continuing	Continuing	Continuing
Mission Payload Module	Various	AFRL:San Antonio,TX	1.145	0.746	Nov 2011	0.550	Nov 2012	-		0.550	Continuing	Continuing	Continuing
Night Vision Mod	Various	Various (Contract Industry):TBD	3.333	1.557	Nov 2011	1.582	Nov 2012	-		1.582	Continuing	Continuing	Continuing
Night Vision Mod	Various	NVESD:Ft. Belvoir, VA	4.068	-		-		-		-	Continuing	Continuing	Continuing
Scout Sniper Cap Sets	C/FFP	MCSC:Quantico, VA	0.618	-	Jan 2012	0.159	Nov 2012	-		0.159	Continuing	Continuing	Continuing
Family of Optical Systems	Various	Night Vision Lab:Ft. Belvoir, VA	0.935	0.586	Dec 2011	0.573	Nov 2012	-		0.573	Continuing	Continuing	Continuing
Family of Optical Systems	Various	Contract Industry:TBD	0.777	0.443	Dec 2011	0.511	Nov 2012	-		0.511	Continuing	Continuing	Continuing
Ocular Interruption	Various	VARIOUS:NSWA, CRANE, IN	0.040	0.190	Feb 2012	0.100	Nov 2012	-		0.100	Continuing	Continuing	Continuing
Ocular Interruption	Various	VARIOUS:NSWC DAHLGREN, VA	0.040	0.190	Feb 2012	0.070	Nov 2012	-		0.070	Continuing	Continuing	Continuing
Ocular Interruption	C/CPFF	Contracts:TBD	0.040	1.585	May 2012	0.253	May 2013	-		0.253	Continuing	Continuing	Continuing
Subtotal			11.859	5.713		7.685		-		7.685			

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Ocular Interruption	Various	HQMC CDnI:Quantico, VA	0.191	-		-		-		-	Continuing	Continuing	Continuing
Ocular Interruption	Various	Travel:Quantico, VA	0.030	-		-		-		-	Continuing	Continuing	Continuing
Ocular Interruption	Various	MCSC:Quantico, VA	0.191	0.320	Jun 2012	0.190	Sep 2013	-		0.190	Continuing	Continuing	Continuing
Mission Payload Module	Various	MCSC:Quantico, VA	2.475	0.948	Nov 2011	1.136	Nov 2012	-		1.136	Continuing	Continuing	Continuing
Night Vision Mod	Various	WR:Various Navy Labs	2.390	0.593	Dec 2011	0.562	Nov 2012	-		0.562	Continuing	Continuing	Continuing
Infantry Weapons Mods	C/FFP	MCSC:Quantico, VA	2.807	0.357	Dec 2011	0.352	Dec 2012	-		0.352	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1901: <i>MC Grnd Wpnry Prod Improvement</i>
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Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Family of Optical Systems	Various	MCSC:Quantico, VA	0.554	0.362	Dec 2011	0.374	Nov 2012	-		0.374	Continuing	Continuing	Continuing
Subtotal			8.638	2.580		2.614		-		2.614			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Co and Bn Mortars	WR	NSWC:Dahlgren, Va	3.919	0.509	Feb 2012	-		-		-	0.000	4.428	
Ocular Interuption	Various	MCOTEA:QUANTICO, VA	0.122	-	Oct 2012	0.110	Sep 2013	-		0.110	Continuing	Continuing	Continuing
Ocular Interuption	Various	MCSC:Quantioc	0.005	-		-		-		-	Continuing	Continuing	Continuing
Mission Payload Module	Various	MCOTEA:Quantico, VA	0.361	0.226	Nov 2011	0.546	Nov 2012	-		0.546	Continuing	Continuing	Continuing
Escalation of Force Equipment	Various	TBD:TBD	0.048	0.054	Sep 2012	0.300	Nov 2012	-		0.300	Continuing	Continuing	Continuing
Night Vision Mod	Various	NSWC;-Dahlgren, VA	1.102	0.211	Apr 2012	0.248	Nov 2012	-		0.248	Continuing	Continuing	Continuing
Infantry Weapons Mods	C/FFP	MCOTEA:Quantico, VA	0.226	0.150	Jan 2012	0.150	Mar 2013	-		0.150	Continuing	Continuing	Continuing
Infantry Weapons Mods	WR	NSWC:Crane, IN	2.404	0.452	Mar 2012	0.460	Mar 2013	-		0.460	Continuing	Continuing	Continuing
Infantry Weapons Mods	C/FFP	MCSC:Quantico, VA	1.299	0.283	Dec 2011	0.295	Jan 2013	-		0.295	Continuing	Continuing	Continuing
Family of Optical Systems	Various	ESED:Fallbrook, CA	0.252	0.184	Apr 2012	0.173	Dec 2012	-		0.173	Continuing	Continuing	Continuing
Scout Sniper Cap Set	C/FFP	MCSC:Quantico, VA	0.299	0.308	Mar 2012	0.156	Nov 2012	-		0.156	Continuing	Continuing	Continuing
Subtotal			10.037	2.377		2.438		-		2.438			

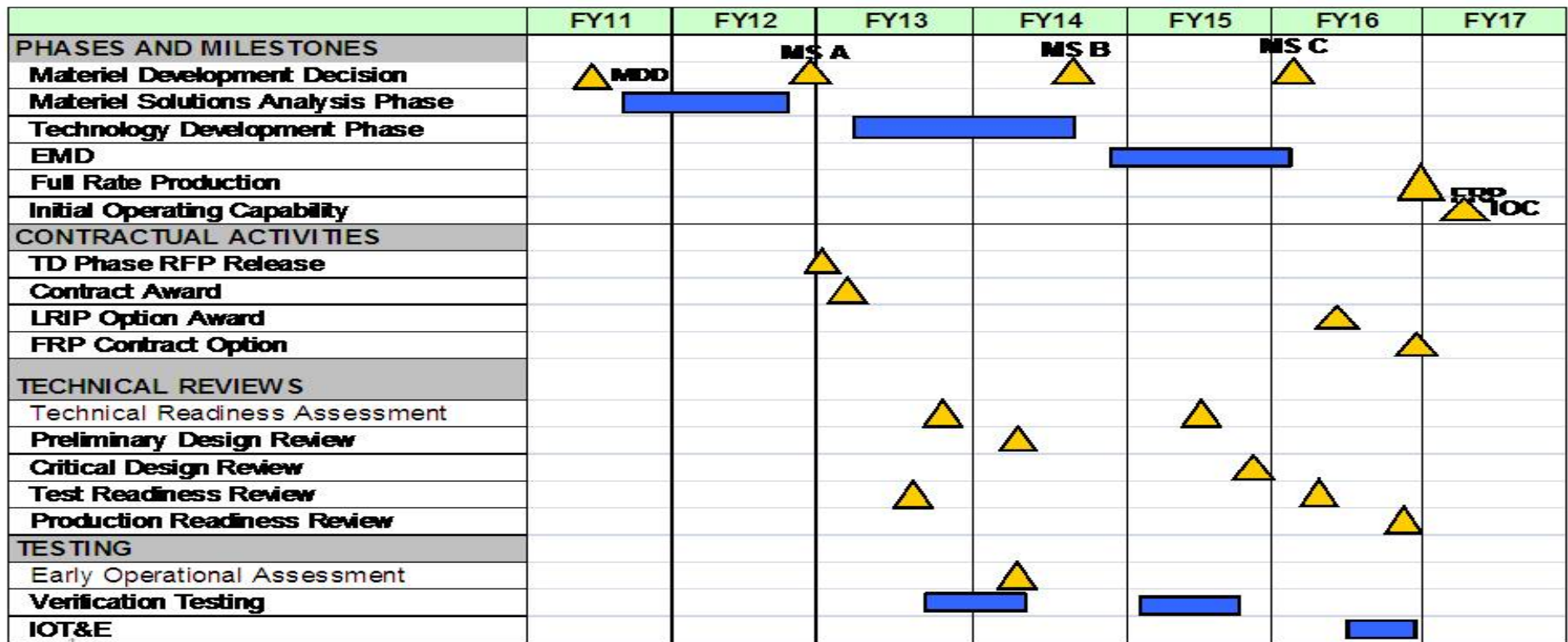
Remarks
This is estimated to be a two year effort (FYs 11 and 12). Test Inconel Cannons to define firm condemnation criteria.

	Total Prior Years Cost	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	30.534	10.670	12.737	-	12.737			

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys	PROJECT 1901: MC Grnd Wpnry Prod Improvement

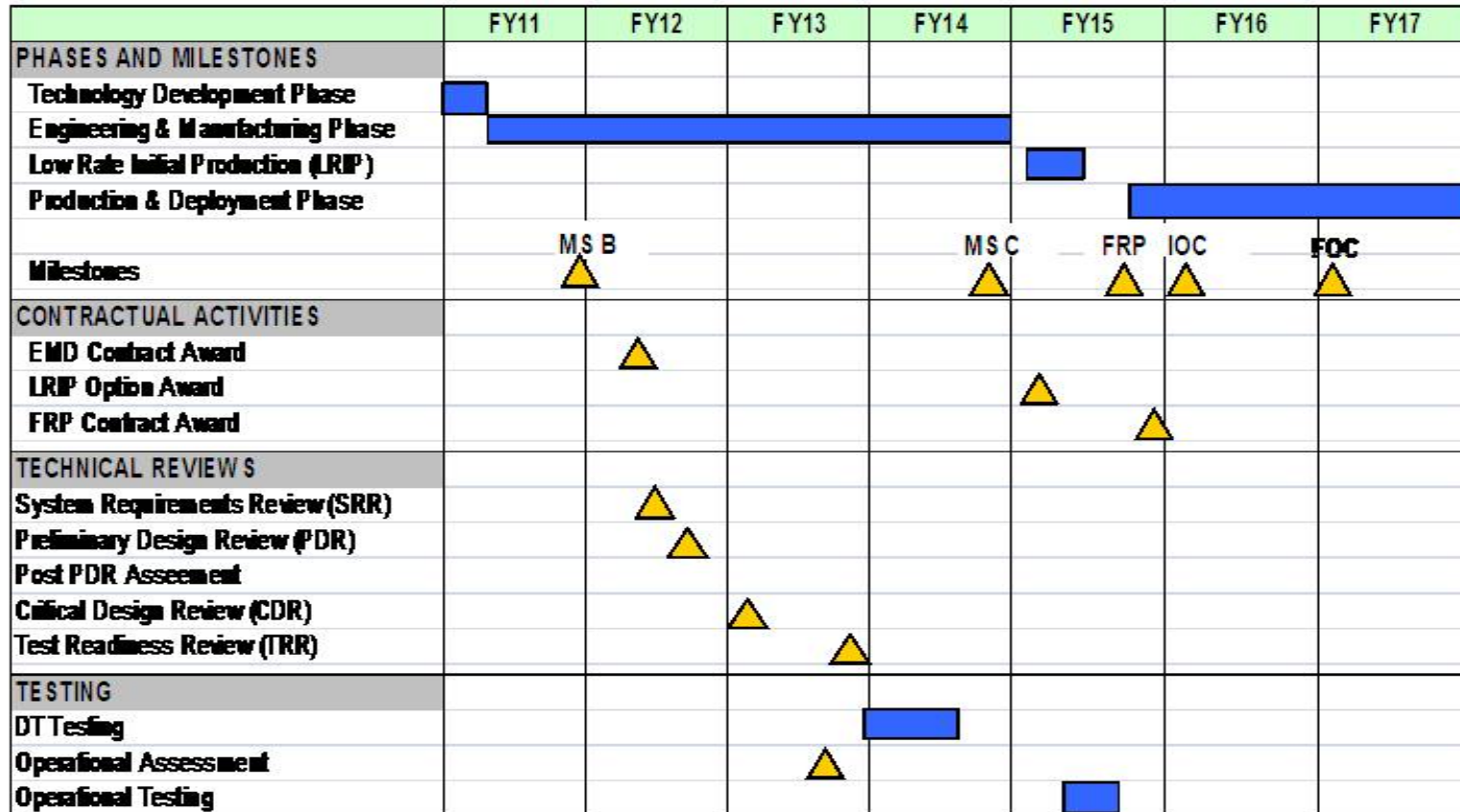
Disable Point Targets Acquisition Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1901: <i>MC Grnd Wpnry Prod Improvement</i>

**MISSION PAYLOAD MODULE – NON-LETHAL SYSTEMS
ACQUISITION SCHEDULE**



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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 1901: <i>MC Grnd Wpnry Prod Improvement</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 1901				
MPM	1	2011	4	2017
MPM - Engineering & Manufacturing Phase	2	2011	4	2014
MPM - Low Rate Initial Production (LRIP)	1	2015	2	2015
MPM - Production & Deployment Phase	3	2015	4	2017
MPM - EMD Contract Award	2	2012	2	2012
MPM - LRIP Contract Award	1	2015	1	2015
MPM - Full Rate Production Contract Award	4	2015	4	2015
MPM Technology Development Phase	1	2011	2	2011
DPT	2	2011	4	2016
DPT - MDD	2	2011	2	2011
DPT - Material SA Phase	3	2011	4	2012
DPT - Technical Development Phase	2	2013	3	2014
DPT - EMD	4	2014	1	2016
DPT - LRIP	2	2016	2	2016
DPT - Production Readiness Review	4	2016	4	2016
DPR - FRP	4	2016	4	2016

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2086: <i>Soldier/Marine Enhancement</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2086: <i>Soldier/Marine Enhancement</i>	4.398	5.324	3.041	-	3.041	6.178	5.235	5.357	5.425	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Marine Expeditionary Rifle Squad (MERS) mission is to manage the infantry squad "squad as a system" by conducting integration, systems engineering, human factors, and modernization efforts across all the products that are worn, carried and consumed by the rifle squad. Physical integration, capability analysis, modeling and simulation, ergonomics, and configuration management are facilitated by this program in working with the various program managers and project officers in the development of their unique items that contribute to the squads overall capabilities. Weight and volume management are fundamental considerations in the insertion or modernization of any squad equipment. MERS works with Joint and NATO soldier modernization programs to harvest new technologies to increase the capability of the rifle squad. The program also ensures the integration of the rifle squad into the various mobility platforms currently in service and being developed to ensure a Marine and his equipment can operate effectively. This program is essential to ensure the combined synergistic equipment effects enhance the war-fighting functions of the Marine rifle squad towards the strategic Marine Corps war-fighting vision for the future.

Marine Enhancement Program (MEP) provides Research, Development, Test and Evaluation funding for low visibility, low cost items. It focuses on items of equipment which will benefit the individual Marine by reducing the load, increasing survivability, enhancing safety and improving combat effectiveness. The emphasis of the program is on non-developmental item / commercial off the shelf (NDI/COTS) available items which can be quickly evaluated and fielded. This program is coordinated with the Army's Soldier Enhancement Program (SEP).

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: MEP	2.694	2.320	0.789	-	0.789
Articles:	0	0	0		0
FY 2011 Accomplishments: MEP provided funding for testing and qualification of MANTA rails, new Vickers two point sling, hearing armor, and SPACES/renewable energy sources.					
FY 2012 Plans: Based on the mission and the nature of the MEP as an accelerated acquisition process based on future MEP candidate submissions/selections the projected projects we may fund for FY12 are yet to be determined.					
FY 2013 Base Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2086: <i>Soldier/Marine Enhancement</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
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Based on the mission and the nature of the MEP as an accelerated acquisition process based on future MEP candidate submissions/selections the projected projects we may fund for FY13 are yet to be determined.

Title: Marine Expeditionary Rifle Squad (MERS)	1.704	3.004	2.252	-	2.252
Articles:	0	0	0		0

FY 2011 Accomplishments:
Supporting Marine Corps Systems Command program offices that provide equipment to the Marine rifle squad or provide mobility platforms that support the squad. Continue to develop Helmet mounted day, thermal and infrared I2 sensors as components of an integrated Headborne System. Continue to manage the Squad as a System and quantify weight, thermal and ergonomic effects in operational conditions. Will conduct data collection utilizing the Load Effects Assessment Program and conduct mobility assessments with 1st and 2nd MarDiv infantry battalions. Fully transition the Gruntworks Squad Integration Facility to Camp Barrett through reconfiguration and upgrades to government R&D facility. This significant effort is to upgrade electrical, Heating, Ventilation and Air Conditioning (HVAC), plumbing and work spaces into a fully capable R&D facility. The capability analysis conducted with Fires & Maneuver Integration Division (FMID) on the Ground Soldier System and Joint Battle Command Platform (JBCEP) systems will conclude during this fiscal year enabling the Marine Corps to respond with integrated capabilities and attributes needed for the infantry squad in the future. This will support decision briefs on direction the infantry will process in providing command and control digitally to the squad level. Continue to develop methodologies for internal routing of data and power in order to eliminate failure points of connectors and snag hazards. Work with PM ICE on finalization of Improved Modular Tactical Vest (IMTV) and Plate Carrier with Tactical Assault Panel on final integration checks as well as supporting integration work on Enhanced Combat Helmet (ECH). Assist PM ICE on new pack project and crew served weapons pack. Anticipate additional work with PM Infantry Weapons and PM Optics on powered rail solutions and integrated rifle control system for accessories. Continue efforts resident in 2010 that will include recommendations and implementation of the various studies conducted. Provide a Marine Corps position on level of involvement with Ground Soldier System. MERS Infantry Integration Working Group will determine prioritization of integration projects.

FY 2012 Plans:
Continue to support all the Marine Corps Systems Command program offices that provide equipment to the Marine rifle squad or provide mobility platforms that support the squad. Complete any remaining initiatives on transition to on-base Squad Integration Facility. Continue with recommendations and prototypes of command and control solutions to the rifle squad based on FY11 capability analysis conducted and follow-on decisions.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2086: <i>Soldier/Marine Enhancement</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<p>Insert Reconfigurable Vehicle Simulator into the Gruntworks Squad Integration Facility and provide direct link with Joint Light Tactical Vehicle (JLTV) on internal configurations to support equipped Marines. Utilize data collected from Marine Corps Load Effects Assessment Program (MC-LEAP) to determine integration issues directly effecting or enhancing mobility of a combat Marine. Objectively utilize MC-LEAP to make alterations of equipment that contributes positive effects to mobility metrics. Continue R&D efforts to develop an integrated headborne system solution. Complete powered rail and rifle accessory controller solution for transition to fielding of system. Re-evaluate the impact of Improved Modular Tactical Vest (IMTV), Plate Carrier (PC), and Tactical Assault Panel (TAP) in the operational environment in order to determine if changes are needed based on length of wear data from the operating forces. Continue to conduct in theater assessments and post deployment surveys with select infantry battalions. Work with Marine Corps Warfighting Laboratory (MCWL) on determining the material solutions that will be required for Expeditionary Marine Air-Ground Task Force (MAGTF) Operations as the replacement for Enhanced Company Operations. This transition will require increased work with Intelligence systems in order to provide sensor and biometric data to and from the rifle squad. Anticipate additional weapons and optics work to continue modernization of the lethality of the rifle squad. Continue to work integrated power solutions with expeditionary power systems and embedded power/ data solution to optimize electrical components while minimizing training and cable hazards. The MERS Infantry Integration Working Group is composed of representatives from the Headquarters Marine Corps policy operations ground, the combat development directorate for Fires & Maneuver Integration and MERS. This group determines the prioritization of integration projects.</p> <p><i>FY 2013 Base Plans:</i> Continue to support all the Marine Corps Systems Command program offices that provide equipment to the Marine rifle squad or provide mobility platforms that support the squad. Resource and utilize the Gruntworks Squad Integration Facility as an asset to execute integration projects and usability trials. Conduct usability trials and limited user evaluations for Joint Battle Command Platform at the infantry platoon and squad level. Develop integrated seating solutions for combat equipped Marines for ACV, MPC, JLTV and other mobility programs and synchronize seat belt and retention systems among the platforms. Conduct R&D on headborne systems in conjunction with Army headborne system project. Conduct surveys with post deploying infantry battalions on usability and integration of equipment utilized during deployment. Conduct weapon system R&D integration of powered rail system and rifle accessory control unit. Conduct human performance testing of Marines utilize current and prototype configurations of infantry rifle squad equipment. Analyze user requirements for replacement solution for the PRC-153 Integrated Intra Squad Radio. Evaluate and transition technologies from ONR and other S&T activities that enhance capabilities of the squad or provide a desired capability for</p>					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2086: <i>Soldier/Marine Enhancement</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
implementation of Expedition MAGTF Operations (EMO). Seek weight and volume reduction replacements for current infantry equipment that support integration of components. Implement requirements from MERS Capabilities Development Document that will be finalized in FY-12.					
Accomplishments/Planned Programs Subtotals	4.398	5.324	3.041	-	3.041

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

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013 Base</u>	<u>FY 2013 OCO</u>	<u>FY 2013 Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• PMC BLI 220800: <i>Marine Enhancement Program</i>	3.261	3.266	2.330	0.000	2.330	2.466	2.594	2.673	2.735	0.000	30.005

D. Acquisition Strategy
Non Developmental Item/ Contractor of the Shelf (NDI/COTS)

E. Performance Metrics
N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2086: <i>Soldier/Marine Enhancement</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
MERS Product Development	C/FFP	Marine Corps Systems Command:Quantico, VA	2.490	1.132	Mar 2012	0.812	Mar 2013	-		0.812	0.000	4.434	Continuing
MEP Product Development	C/FFP	Marine Corps Systems Command:Quantico, VA	2.372	0.650	Mar 2012	0.590	Mar 2013	-		0.590	0.000	3.612	Continuing
Subtotal			4.862	1.782		1.402		-		1.402	0.000	8.046	

Remarks
Various contracts, MIPRS, Work Requests and Supply Requisitions are awarded through the year for the various initiatives in the MEP and MERS programs. Contract Method reflects where the majority of the funding is allocated. Contract award date reflects the first of multiple awards.

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
MERS Operational Test & Evaluation	C/FFP	Marine Corps Systems Command:Quantico, VA	-	-		0.600	Mar 2013	-		0.600	0.000	0.600	
MEP Operational Test & Eval	C/FFP	Marine Corps Systems Command:Quantico, VA	1.514	0.400	Mar 2012	-		-		-	0.000	1.914	Continuing
Subtotal			1.514	0.400		0.600		-		0.600	0.000	2.514	

Remarks
Various contracts, MIPRS, Work Requests and Supply Requisitions are awarded through the year for the various initiatives in the MEP and MERS programs. Contract Method reflects where the majority of the funding is allocated. Contract award date reflects the first of multiple awards.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2086: <i>Soldier/Marine Enhancement</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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			
MERS Developmental Test & Eval	C/FFP	Marine Corps Systems Command:Quantico, VA	1.872	1.122	Mar 2012	0.840	Mar 2013	-		0.840	0.000	3.834	Continuing
MEP Developmental Test & Eval	C/FFP	Marine Corps Systems Command:Quantico, VA	3.760	0.569	Mar 2012	0.199	Mar 2013	-		0.199	0.000	4.528	Continuing
Subtotal			5.632	1.691		1.039		-		1.039	0.000	8.362	

Remarks
Various contracts, MIPRS, Work Requests and Supply Requisitions are awarded through the year for the various initiatives in the MEP and MERS programs, therefore a specific contract award date cannot be identified. Contract award date reflects the first of multiple awards.

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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			
MERS Program Mgmt/Tech Spt	C/FFP	Marine Corps Systems Command:Quantico, VA	2.534	0.750	Mar 2012	-		-		-	0.000	3.284	Continuing
MEP Program Mgmt/Tech Spt	C/FFP	Marine Corps Systems Command:Quantico, VA	2.125	0.701	Mar 2012	-		-		-	0.000	2.826	Continuing
Subtotal			4.659	1.451		-		-		-	0.000	6.110	

Remarks
Various contracts, MIPRS, Work Requests and Supply Requisitions are awarded through the year for the various initiatives in the MEP and MERS programs. Contract Method reflects where the majority of the funding is allocated. Contract award date reflects the first of multiple awards.

	Total Prior Years Cost	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	16.667	5.324	3.041	-	3.041	0.000	25.032	

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2237: <i>Amphibious Vehicle Test</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2237: <i>Amphibious Vehicle Test</i>	0.915	0.934	0.933	-	0.933	0.953	0.965	0.981	0.995	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

(U) The Amphibious Vehicle Test Branch (AVTB) is a one-of-a-kind Department of Defense test facility for amphibious vehicles and supports the requirements of all services. The AVTB conducts developmental, combined developmental/operational, and follow-on testing and evaluation of production hardware. It also conducts Product Assurance Testing and Substitute or alternative parts and material testing for amphibious vehicles and associated equipment. Because of its year-round temperate climate, diverse terrain, and 17 miles of coastline, the AVTB is ideal for the amphibious vehicle, as well as ship related testing. The AVTB is in close proximity to San Clemente Island which is used frequently for live fire sea-to-shore testing and high-speed water testing. The AVTB is committed to testing product improvement programs, engineering change proposal design changes, and field change requests. The Amphibious Vehicle Test Branch (AVTB) serves as the primary Test & Evaluation facility for all amphibious vehicles.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Support Services	0.453	0.388	0.373	-	0.373
Articles:	0	0	0		0
FY 2011 Accomplishments:					
Provided the necessary support assets required to conduct safe and accurate developmental and instrumentation testing on amphibious vehicle prototypes. Provided the maintenance, refurbishment, upgrade, and replacement of test equipment. Provided program support, supplies, and services at the AVTB test site as well as various off-site testing locations to support amphibious vehicle developmental testing. This included the upgrade of instrumentation for Over-The-Horizon (OTH) capability in developing weapons systems to support operational maneuver from the sea, providing organic supply support including management operations, general accounting, and a maintenance float of equipment; and providing intermediate maintenance (third echelon) of organic non-developmental communication electronic and ordnance equipment.					
FY 2012 Plans:					
Provide the necessary support assets required to conduct safe and accurate simultaneous developmental testing on amphibious vehicle prototypes. Provide the maintenance, refurbishment, upgrade, and replacement of test equipment. Provide program support, supplies, and services at the AVTB test site as well as various off-site testing locations to support scheduled amphibious vehicle developmental testing. This includes the upgrade of instrumentation for Over-The-Horizon (OTH) capability in developing weapons systems to support operational maneuver from the sea, providing organic supply support including management operations, general accounting,					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2237: <i>Amphibious Vehicle Test</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
and a maintenance float of equipment; and providing intermediate maintenance (third echelon) of organic non-developmental communication electronic and ordnance equipment.					
<i>FY 2013 Base Plans:</i> Provide the necessary support assets required to conduct safe and accurate simultaneous developmental testing on amphibious vehicle prototypes. Provide the maintenance, refurbishment, upgrade, and replacement of test equipment. Provide program support, supplies, and services at the AVTB test site as well as various off-site testing locations to support scheduled amphibious vehicle developmental testing. This includes the upgrade of instrumentation for Over-The-Horizon (OTH) capability in developing weapons systems to support operational maneuver from the sea, providing organic supply support including management operations, general accounting, and a maintenance float of equipment; and providing intermediate maintenance (third echelon) of organic non-developmental communication electronic and ordnance equipment.					
<i>Title:</i> Contracts	0.462	0.546	0.560	-	0.560
<i>Articles:</i>	0	0	0		0
<i>FY 2011 Accomplishments:</i> Provided funding for necessary services from Marine Corps Base, Camp Pendleton, California for electricity, heating, and other power charges; and long distance telephone support. Provided funding for calibration of laboratory test equipment and maintenance services provided by MCLB Barstow and 1st Force Service Support Group (FSSG).					
<i>FY 2012 Plans:</i> Provide funding for necessary services from Marine Corps Base, Camp Pendleton, California for electricity, heating, and other power charges; and long distance telephone support. Provide funding for calibration of laboratory test equipment and maintenance services provided by MCLB Barstow and 1st Force Service Support Group (FSSG).					
<i>FY 2013 Base Plans:</i> Provide funding for necessary services from Marine Corps Base, Camp Pendleton, California for electricity, heating, and other power charges; and long distance telephone support. Provide funding for calibration of laboratory test equipment and maintenance services provided by MCLB Barstow and 1st Force Service Support Group (FSSG).					
Accomplishments/Planned Programs Subtotals	0.915	0.934	0.933	-	0.933

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2237: <i>Amphibious Vehicle Test</i>
C. Other Program Funding Summary (\$ in Millions) N/A		
D. Acquisition Strategy Work will be led in-house. Necessary contractor support will be provided by Marine Corps Base Camp Pendleton via existing contracts. General Services Administration will be used for vehicle leasing contract.		
E. Performance Metrics N/A		

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2315: <i>Training Devices/Simulators</i>	2.315	14.642	19.492	-	19.492	14.858	11.859	12.064	10.687	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

(U) Training simulators supported by this program element include Combined Arms Command & Control Training Upgrade System (CACCTUS), Deployable Virtual Training Environment (DVTE), Multiple Integrated Laser Engagement System (MILES) 2000, Marine Air-Ground Task Force (MAGTF) Tactical Warfare Simulation (MTWS) Enhancements, Range Modernization/Transformation (RM/T), Supporting Arms Virtual Trainer (SAVT), Squad Immersive Training Environment (SITE) and Training Support. These training systems provide tactical weapons and decision-making skill training from entry level through (MAGTF) staff level. Systems will be interoperable and will allow for mission planning, mission rehearsal and concept evaluation in a valid synthetic environment with objective, and timely feedback. Through live, virtual and constructive simulation, the Marine Corps will have the means to train jointly, educate, develop doctrine and tactics, formulate and assess operational plans, assess warfighting situations, and define operational requirements.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Supporting Arms Virtual Trainer (SAVT)	-	0.375	0.153	-	0.153
Articles:		0	0		0
Description: The SAVT will advance the training capability, operational readiness, and tactical proficiency of USMC Joint Terminal Attack Controllers (JTACS), Forward Observers (FOs), and Forward Air controllers (FACs). The personnel will use training scenarios that require the placement of tactical ordnance on selected targets using Joint Close Air Support (JCAS) procedures and observed fire procedures for Naval Surface Fire Support (NSFS), artillery and mortar fire to perform destruction, neutralization, suppression, illumination/ coordinated illumination, interdiction and harassment fire missions.					
FY 2012 Plans: This is a new start initiative that provides modeling and simulation for Boeing AV8B Harrier II aircraft enhancements to SAVT, continued enhancements of Digital Channel Associated Signalling (CAS) to integrate Marine organic equipment, and integration of SAVT and Digital CAS providing interoperability amongst virtual training systems.					
FY 2013 Base Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Provide modeling and simulation for Boeing AV8B Harrier II aircraft enhancements to SAVT, continued enhancements of Digital Channel Associated Signalling (CAS) to integrate Marine organic equipment, and integration of SAVT and Digital CAS providing interoperability amongst virtual training systems.					
<p>Title: Squad Immersive Training Environment (SITE)</p> <p align="right">Articles:</p> <p>Description: The Squad Immersive Training Environment (SITE) is an integrating construct or "toolkit" of Live, Virtual and Constructive (LVC) training capabilities used to significantly improve infantry squad operational readiness and squad leader tactical decision-making skills. The collection of LVC training capabilities within SITE will enhance opportunities for squad collective training to increase tactical proficiency, confidence, and readiness for real world operations. SITE will enhance skill transfer and assessment by enabling squads to finish, test, and remediate training in preparation for a capstone exercise such as pre-deployment training.</p> <p>FY 2012 Plans: This is a new start responding to the Marine Requirements Oversight Council (MROC) approval of the Squad Immersive Training Environment (SITE) Initial Capabilities Document (ICD) (Joint Interest). RDT&E funds will be used to produce acquisition, program of record, and systems engineering documentation and product development to include (1) continued Alternative of Analysis (AoA); (2) material solution analysis; (3) Systems Design Specification; (4) Interface Design Document, and, (5) an overarching System Engineering Master Plan across current training systems to steer development of standards and a roadmap for system capability upgrades and sustained interoperability. The Systems Engineering Management Plan (SEMP) will include a methodical, phased approach to develop SITE capabilities over time and to initiate interoperability plans addressing highest priority AoA gaps. SITE funding will leverage existing and new Office of Naval Research (ONR) and Future Immersive Training Environment (FITE) Joint Capabilities Technology Demonstration (JCTD) transition deliverables to provide immersive training capabilities with existing programs and new program of record systems.</p> <p>FY 2013 Base Plans: RDT&E funds continues to produce acquisition, program of record, and systems engineering documentation and product development to include (1) continued AoA; (2) material solution analysis; (3) Systems Design Specification; (4) Interface Design Document, and, (5) an overarching System Engineering Master Plan across current training systems to steer development of standards and a roadmap for system capability upgrades and sustained interoperability. The SEMP will include a methodical, phased approach to develop SITE capabilities over time and to initiate interoperability plans addressing highest priority AoA gaps. SITE funding will leverage</p>	-	1.978 0	1.806 0	-	1.806 0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
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existing and new Office of Naval Research and Future Immersive Training Environment (FITE) JCTD transition deliverables to provide immersive training capabilities with existing programs and new program of record systems.					
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<p>Title: Deployable Virtual Training Environment (DVTE)</p> <p align="right">Articles:</p> <p>Description: DVTE is a laptop Personal Computer (PC) based simulation system capable of emulating organic and supporting Infantry Battalion weapons systems and training scenarios to facilitate training and readiness based training. Its portable configuration allows Marines to train in areas where there are few options for training garrison, aboard ship, at remote reserve locations, and deployed. DVTE training includes language and culture training, platoon and squad level tactics, employment of supporting arms, and various Recognition of Combatants (ROC) packages. DVTE is part of a Commander's "training toolkit" contributing to the building block approach to standards based training focusing on achieving an improved level of combat readiness.</p> <p>FY 2012 Plans: DVTE was supported with prior year budgets up to FY 10. FY 12 funds incremental DVTE network infrastructure development by focusing on capabilities identified as DVTE application enhancements in the development plan. Initiate additional efforts specified under the DVTE Capability Development Document (CDD) Increment II that includes Command, Control, Communications, Computers and Intelligence (C4I) Integration and DVTE interoperability.</p> <p>FY 2013 Base Plans: Continue incremental DVTE network infrastructure development by focusing on capabilities identified as DVTE application enhancements in the development plan. Initiate additional efforts specified under the DVTE Capability Development Document (CDD) Increment II that includes Command, Control, Communications, Computers and Intelligence (C4I) Integration and DVTE interoperability.</p>	-	3.672 0	2.270 0	-	2.270 0
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<p>Title: Range Modernization/Transformation (RM/T)</p> <p align="right">Articles:</p> <p>Description: Range Modernization/Transformation (RM/T) developments are associated with modernizing live training ranges at major USMC bases and stations. This development effort enhances After Action Review (AAR) with ground truth feedback, realistic representation of Opposing Forces (OPFOR) and enhance range</p>	0.390 0	2.302 0	6.736 0	-	6.736 0
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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy				DATE: February 2012																			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>		PROJECT 2315: <i>Training Devices/Simulators</i>																			
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)																							
and exercise control capabilities. RM/T integrates Live, Virtual, and Constructive training technologies, thereby, enhancing fielded live-fire, force-on-target, and force-on-force training capabilities.																							
FY 2011 Accomplishments: Worked closely with MCB Camp Pendleton, CA to complete the necessary documentation needed for the installation of the Automatic Performance Evaluation and Lessons Learned (APELL) system at the Infantry Immersion Trainer (IIT). The system was installed and initial testing has begun. The vendor continues to resolve issues and fine tune scenarios and metrics.																							
FY 2012 Plans: To complete integration of Tactical Video Capture System (TVCS) with Marine Corps Instrumented Training System (MC-ITS). Develop interfaces for range targetry to operate in the Live/Virtual/Constructive Training Environment (LVC-TE). In the LVC-TE range targetry and battlefield effects will be stimulated (by virtual and constructive simulations) at distant locations. Range targetry will also report status (active, inactive, damaged, destroyed) through the LVC-TE to constructive and virtual simulations.																							
FY 2013 Base Plans: Continue development of the dynamic training system capable of real-time and post mission battle tracking, data collection, and deliverance of After Action Review to meet current and future regular/irregular warfare training requirements. Continue software upgrades to the Marine Corps-Instrumented Training System (MC-ITS) and ensure integration of numerous Immersive Infantry Training systems (i.e. Avatar, Automatic Performance Evaluation and Lessons Learned, and Tactical Video Capture System).																							
Title: Multiple Integrated Laser Engagement System (MILES)																							
Articles:																							
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;"></th> <th style="width: 10%;">FY 2011</th> <th style="width: 10%;">FY 2012</th> <th style="width: 10%;">FY 2013 Base</th> <th style="width: 10%;">FY 2013 OCO</th> <th style="width: 10%;">FY 2013 Total</th> </tr> </thead> <tbody> <tr> <td></td> <td align="right">0.045</td> <td align="right">0.050</td> <td align="right">0.050</td> <td align="center">-</td> <td align="right">0.050</td> </tr> <tr> <td></td> <td align="right">0</td> <td align="right">0</td> <td align="right">0</td> <td></td> <td align="right">0</td> </tr> </tbody> </table>							FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total		0.045	0.050	0.050	-	0.050		0	0	0		0
	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total																		
	0.045	0.050	0.050	-	0.050																		
	0	0	0		0																		
Description: MILES 2000 is the base technology for Range Instrumentation development that is used in Force-on-Force (FoF), Free Play, and FoF Target exercises. MILES 2000 is an integral component of the Position Location Instrumentation (PLI) providing individual Marine feedback and engagement adjudication.																							
FY 2011 Accomplishments: Continue minimal Live, Virtual and Constructive (LVC) training technologies integration with the Avatars and Marine Expeditionary Force Tracking with Radio Communication (MEFTRC) systems, Instrumented Tactical Engagement System (I-TESS) and Infantry Immersion Trainers (IITs).																							
FY 2012 Plans:																							

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Continue minimal Live, Virtual and Constructive (LVC) training technologies integration with the Instrumented Tactical Engagement System (I-TESS) and Infantry Immersion Trainers (IITs). FY 2013 Base Plans: Continue minimal Live, Virtual and Constructive (LVC) training technologies integration with the Instrumented Tactical Engagement System (I-TESS), the Squad Immersive Training Environment (SITE) and the Infantry Immersion Trainers (IITs).					
Title: Marine Air/Ground Task Force (MAGTF) Tactical Warfare Simulation (MTWS) Enhancements Articles:	0.113 0	2.775 0	2.589 0	-	2.589 0
Description: Marine Air/Ground Task Force (MAGTF) Tactical Warfare Simulation (MTWS) is the only Marine Corps aggregate-level constructive simulation system designed to support the training of Senior Commanders and their staffs in command and control processes and procedures. The system provides interactive, multi-sided, force-on-force, real-time modeling and simulation with stand-alone tactical combat scenarios for air ground, surface, and amphibious operations. With interfaces to fielded Marine Corps Command, Control, Communications Computers and Intelligence (C4I) systems such as Command and Control Personal Computer (C2PC) and Intelligence Operations Server (IOS). MTWS provides the battle staff the ability to seamlessly train with and use other C4I systems during the execution on an MTWS supported training event. Through the implementation of a High Level Architecture (HLA) interface between MTWS and the entity-level Joint Conflict and Tactical Simulation (JCATS) system, high resolution tactical objectives can be simulated in JCATS and reflected within the context of a larger operation scenario conducted in MTWS.					
FY 2011 Accomplishments: Provided software development for the MAGTF Tactical Warfare Simulation (MTWS) program which remains in sustainment status. Minimal development of the High Level Architecture (HLA) Bridge and integration in the Joint Live, Virtual, and Constructive (JLVC) Federation has been accomplished.					
FY 2012 Plans: Increase the levels of development in the JLVC effort with development of Irregular Warfare (IW) simulation capabilities. These include modeling the kinetic and non-kinetic behaviors and automated Master Scenario Events List (MSEL) to focus the training audience on staff actions.					
FY 2013 Base Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
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Continue development of the MTWS HLA bridge, integration into the JLVC Federation, and increasing levels of software capability to meet the changing operational environment that Marines fight in daily.

Title: Combined Arms Command and Control Trainer Upgrade System (CACCTUS)	0.224	3.430	5.828	-	5.828
Articles:	0	0	0		0

Description: Combined Arms Command and Control Trainer Upgrade System (CACCTUS) is a combined arms staff training system that when fully fielded will enable comprehensive Marine Corps staff, unit, and team training both at home station Combined Arms Staff Training (CAST) facilities and through distributed training involving CAST facilities across the Marine Corps. CACCTUS is an upgrade to the USMC's Combined Arms Staff Training (CAST) that provides fire support training the the Marine Air Ground Task Force (MAGTF) elements up to and including Marine Expeditionary Brigade (MEB) level. Using the system components and simulation capabilities, two dimensional (2D) and three dimensional (3D) visuals, interfaced Command, Control, Communications, Computers and Intelligence (C4I), synthetic terrain, and an After Action Review (AAR), the concept of operations for the CACCTUS system is to immerse the trainees in a realistic, scenario-driven environment to enable commands and their battle staffs to train or rehearse combined arms tactics, techniques and procedures for decision-making processes.

FY 2011 Accomplishments:
Funding included Naval Air Warfare Center Training Systems Division (NAWCTSD) Orlando, FL integration of a trainee and staff software communications system into CACCTUS.

FY 2012 Plans:
Increase the development levels of MEB Staff training for modeling and simulation and greater Command, Control, Communications, Computers and Intelligence Systems Reconnaissance (C4ISR) capabilities in support of the integration of key elements of the Live, Virtual and Constructive (LVC) resources.

FY 2013 Base Plans:
Continue development of LVC training capabilities and to refine warfare specific software application in support of key company, battalion, regimental and MEB staff training requirements.

Title: Training Support	1.543	0.060	0.060	-	0.060
Articles:	0	0	0		0

Description: Provide training solution development efforts for the modernization of training systems by providing high fidelity, immersive simulations and capabilities. Integrates existing live, virtual, and constructive training

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
capabilities to provide fully coordinated Marine Air Ground Training Force (MAGTF) training exercises that realistically simulate the operating environment.					
<i>FY 2011 Accomplishments:</i> Program supported the development of Marine Expeditionary Brigade (MEB) Staff training for modeling and simulation and greater Command, Control, Communications, Computers and Intelligence Systems Reconnaissance (C4ISR) capabilities in support of the integration of key elements of the Live, Virtual and Constructive (LVC) resources.					
<i>FY 2012 Plans:</i> Continue development of the MAGTF Tactical Warfare Simulation (MTWS) High Level Architecture (HLA) bridge and integration into the Joint Live, Virtual, and Constructive (JLVC) Federation.					
<i>FY 2013 Base Plans:</i> Continue incremental Deployable Virtual Training Environment (DVTE) network infrastructure development by focusing on capabilities identified as DVTE application enhancements in the development plan. Initiate additional efforts specified under the DVTE Capability Development Document (CDD) Increment II that includes Command, Control, Communications, Computers and Intelligence (C4I) and DVTE interoperability.					
Accomplishments/Planned Programs Subtotals	2.315	14.642	19.492	-	19.492

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PMC/BLI#6532001: <i>Training Devices, CACCTUS</i>	4.134	3.242	3.180	0.000	3.180	3.269	2.526	2.600	2.645	Continuing	Continuing
• PMC/BLI#6532002: <i>Training Devices, MILES</i>	0.013	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	23.268
• PMC/BLI#6532003: <i>Training Devices, RM/T</i>	51.634	8.035	40.982	0.000	40.982	31.627	32.433	33.417	33.995	Continuing	Continuing
• PMC/BLI#6532004: <i>Training Devices, DVTE</i>	0.000	0.714	2.303	0.000	2.303	1.282	0.000	0.000	1.570	0.000	5.869
• PMC/BLI#6532005: <i>Training Devices, SAVT</i>	0.678	0.661	0.599	0.000	0.599	0.000	0.000	0.000	0.000	0.000	1.938

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>
<u>D. Acquisition Strategy</u> (U) CACCTUS - Competitive software development contract (T&M), Commercial Enterprise Omnibus Support Services (CEOSS) contract (C/FFP), and Work Request to NSWC (U) DVTE - Competitively award IDIQ contract, Small Business Set-Aside (U) MILES - Modification to existing development contract (C/FFP) (U) RM/T - MIPR to the Army planned for award on existing Consolidated Produce-line Management Contract. (U) SAVT - Government engineering lab labor (Work Request) to NAWC-TSD (U) MTWS - Sole Source Firm Fixed Price (SS/FFP) and MIPR to Ft Monmouth to be placed on Army contract (U) SITE - Competitive Cost plus Fixed Fee (CPFF) and Work Request to NAWCTSD (U) Training Support - MTWS MIPR to Ft Monmouth to be placed on Army contract; DVTE Competitively award IDIQ contract, Small Business Set-Aside		
<u>E. Performance Metrics</u> N/A		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
CACCTUS - S/W Dev	SS/CPFF	Cole Engineering Systems Inc. (CESI):Orlando, FL	14.826	-		-		-		-	0.000	14.826	
CACCTUS - S/W Dev	Various	Various:Various	2.640	-		-		-		-	0.000	2.640	
Training Support -CACCTUS	C/T&M	Riptide:Oviedo, FL	1.664	-		-		-		-	0.000	1.664	
CACCTUS - S/W Dev	C/T&M	Riptide:Oviedo, FL	-	2.813	Nov 2011	5.200	Nov 2012	-		5.200	0.000	8.013	
DVTE - S/W Dev	MIPR	Lockheed:Orlando, FL	2.222	-		-		-		-	0.000	2.222	
DVTE - S/W Dev	Various	Various:Various	1.739	-		-		-		-	0.000	1.739	
DVTE - S/W Dev - VBS2	C/FFP	Bohemia Interactive:Orlando, FL	6.661	1.450	Mar 2012	2.000	Apr 2013	-		2.000	0.000	10.111	
DVTE - S/W Dev - CAN	C/IDIQ	TBD:TBD	-	2.222	Apr 2012	0.270	Apr 2013	-		0.270	0.000	2.492	
Training Support - DVTE-S/W Dev - CAN	C/CPFF	TBD:TBD	-	-		0.060	Apr 2013	-		0.060	0.000	0.060	
MILES Technology Insertion	C/CPFF	SARNOFF:Princeton, NJ	0.050	-		-		-		-	0.000	0.050	
MILES MC-ITS Development	C/CPFF	Lockheed Martin:Orlando, FL	1.429	-		-		-		-	0.000	1.429	
MILES Continuous Technology Refresh	C/FFP	Saab:Orlando, FL	0.091	0.050	Nov 2011	0.050	Nov 2012	-		0.050	Continuing	Continuing	Continuing
MTWS - S/W Dev	SS/FFP	L-3 Communications:San Diego, CA	10.070	2.647	Mar 2012	2.419	Jan 2013	-		2.419	0.000	15.136	
RM/T TACS Dev	WR	NSWC:Corona, CA	2.619	-		-		-		-	0.000	2.619	
RM/T OV-1 Dev	C/FFP	MITRE:Orlando, FL	0.073	-		-		-		-	0.000	0.073	
RM/T APELL	C/CPFF	SARNOFF:Princeton, NJ	4.050	-		-		-		-	0.000	4.050	
RM/T PLI Integration	C/FP	CTC:Orlando, FL	1.278	-		-		-		-	0.000	1.278	
RM/T Range Safety Test	MIPR	US Army:Aberdeen Proving Ground	0.274	-		-		-		-	0.000	0.274	
RM/T DITS	C/FP	SAAB USA:Orlando, FL	1.045	-		-		-		-	0.000	1.045	
RM/T Competitive BAA	C/FP	Various:Various	1.251	-		-		-		-	0.000	1.251	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
RM/T MC-ITS Development	MIPR	PEOSTRI/ TRADE:Orlando, FL	-	2.302	Dec 2011	6.736	Dec 2012	-		6.736	Continuing	Continuing	Continuing
SAVT Lab Effort	WR	NAWC TSD:Orlando, FL	-	0.375	Feb 2012	0.153	Jan 2013	-		0.153	Continuing	Continuing	Continuing
SITE - Material Solution Anlysis	C/CPFF	TBD:TBD	-	1.278	Feb 2012	1.106	Dec 2012	-		1.106	0.000	2.384	
Subtotal			51.982	13.137		17.994		-		17.994			

Remarks

DVTE SW Dev-CAN and Tng Spt DVTE SW Dev-CAN - Contract is being competed in FY12 and will be IDIQ, Small Business Set-Aside.

SITE: The Analysis of Alternatives (AoA) is currently being conducted and Alternatives 2 and 3a should be finalized and approved by the end of FY 11. The results of this analysis will identify what capability gaps need to be filled which will determine the contract vehicle used (new contract and/or existing).

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
CACCTUS - S/W Dev Support	WR	NAVAIR:Orlando, FL	1.444	0.257	Oct 2011	0.181	Oct 2012	-		0.181	Continuing	Continuing	Continuing
CACCTUS - CEOSS Support	C/FFP	L-3 Communications:Orlando, FL	-	0.360	Feb 2012	0.447	Jun 2013	-		0.447	0.000	0.807	
Training Support-MTWS S/W Dev	MIPR	MITRE:Fort Monmouth, NJ	-	0.060	Feb 2012	-		-		-	0.000	0.060	
MTWS - S/W Dev Support	MIPR	Department of Energy (DOE):Livermore, CA	0.318	-		-		-		-	0.000	0.318	
MTWS - S/W Dev Support	MIPR	MITRE:Fort Monmouth, NJ	12.127	0.128	Feb 2012	0.170	Feb 2013	-		0.170	Continuing	Continuing	Continuing
SITE - Material Solution Analysis	WR	NAWCTSD:Orlando, FL	-	0.200	Oct 2011	0.200	Oct 2012	-		0.200	Continuing	Continuing	Continuing
SITE - Material Solution Analysis	C/FFP	L-3 Communications:San Diego, CA	-	0.500	Feb 2012	0.500	Feb 2013	-		0.500	0.000	1.000	

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0206623M: MC Ground Cmbt Spt Arms Sys	PROJECT 2315: Training Devices/Simulators

Exhibit R-4-4a Project Schedule/Detail		DATE: August 2011
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA 7 Operational Sys Dev	PROGRAM ELEMENT 0206623M Marine Corps Ground Combat/Supporting Arms Systems	PROJECT NUMBER AND NAME 2315 Training Devices/Simulators

**Combined Arms Command & Control Training Upgrade System
(CACCTUS) PROGRAM SCHEDULE**

	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16	FY 17
PROGRAM SUPPORT:	[Solid black bar]								
CEOSS	◆	◆	◆	◆	◆	◆	◆	◆	◆
Software Development Reviews	◆	◆	◆	◆	◆	◆	◆	◆	◆
Version 5.1 Release, Install Test & validation at Camp Lejeune, NC (CLNC)		◆	◆						
Version 5.1 Delivery, Simulation Installation at 29 Palms, CA		◆	◆						
Initial Operating Capability (IOC) Combined Arms Sys Trainer		◆	◆						
Hardware (HW) Install Camp Pendleton CA, Okinawa, and Hawaii and V5.1 Delivery and install		◆	◆						
Version 5.2 SW Release, Software (SW) Upgrade All Sites, Test and Validation			◆						
Version 6.0 SW Release, Software (SW) Upgrade All Sites, Test and Validation				◆					
Version 6.1 SW Release, Software (SW) Upgrade All sites, Test and Validation					◆				
Version 6.2 SW Release, Software (SW) Upgrade All sites, Test and Validation						◆			
Version 7.0 SW Release, Software (SW) Upgrade All sites, Test and Validation							◆		
Version 7.1 SW Release, Software (SW) Upgrade All sites, Test and Validation								◆	
Version 7.2 SW Release, Software (SW) Upgrade All sites, Test and Validation									◆

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>

Exhibit R-4-4a Project Schedule/Detail		DATE: August 2011
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APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA 7 Operational Sys Dev	PROGRAM ELEMENT 0206623M Marine Corps Ground Combat/Supporting Arms Systems	PROJECT NUMBER AND NAME 2315 Training Devices/Simulators
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**Deployable Virtual Training Environment
(DVTE) PROGRAM SCHEDULE**

	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16	FY 17
Software Development Annual Version Update-VBS2				◆ ◆	◆	◆	◆	◆	◆
Software Development Annual Version Update-CAN									

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>

Exhibit R-4-4a Project Schedule/Detail		DATE: August 2011
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA 7 Operational Sys Dev	PROGRAM ELEMENT 0206623M Marine Corps Ground Combat/Supporting Arms	PROJECT NUMBER AND NAME 2315 Training Devices/Simulators

**Marine Air-Ground Task Force (MAGTF) Tactical Warfare Simulation
(MTWS) PROGRAM SCHEDULE**

	FY 09	FY 10	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16	FY 17
PROGRAM SUPPORT:	[Solid black bar]								
Contract Awards	◆	◆	◆	◆	◆	◆	◆	◆	◆
MTWS IPT/CCB	◆	◆	◆	◆	◆	◆	◆	◆	◆
Hardware Refresh						◆			
Version 3.4.3 Operational Testing	◆								
Version 3.4.3 SW Release	◆								
Version 3.4.4 Operational Testing		◆							
Version 3.4.4 SW Release		◆							
Version 3.4.5 Operational Testing			◆						
Version 3.4.5 SW Release			◆						
Version 3.4.6 Operational Testing				◆					
Version 3.4.6 SW Release				◆					
Version 3.4.7 Operational Testing					◆				
Version 3.4.7 SW Release					◆				
Version 3.4.8 Operational Testing						◆			
Version 3.4.8 SW Release						◆			
Version 4.0.0.0 Operational Testing							◆		
Version 4.0.0.0 SW Release							◆		
Version 4.0.1.0 Operational Testing								◆	
Version 4.0.1.0 SW Release								◆	
Version 4.1.0.0 Operational Testing									◆
Version 4.1.0.0 SW Release									◆

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>
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C2315E - MILES

	FY11	FY12	FY13	FY14	FY15	FY16	FY17
MILES Continuous Technology Refresh							

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>
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			SAVT	
	FY12	FY13	FY14	
Govt Engineering Lab Labor				

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>

C2315 - SITE

	FY11	FY12	FY13	FY14	FY15	FY16	FY17
NAWTSD Labor Material Solution Analysis Phase		◆ →					
CEOSS Labor Material Solution Analysis Phase		◆ →					→
Contract Labor Material Solution Analysis Phase		◆ →					→

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>

Exhibit R-4-4a Project Schedule/Detail		DATE: August 2011
APPROPRIATION/BUDGET ACTIVITY RDT&E, N /BA 7 Operational Sys Dev	PROGRAM ELEMENT 0206623M Marine Corps Ground Combat/Supporting	PROJECT NUMBER AND NAME 2315 Training Devices/Simulators

**Training Support
PROGRAM SCHEDULE**

	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16	FY 17
CACCTUS SW Development Release	◆						
MTWS SW Development Release		◆					
DVTE SW Development Release			◆				
MTWS SW Development Release				◆			
MTWS SW Development Release					◆		
MTWS SW Development Release						◆	
MTWS SW Development Release							◆

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>
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C2315K - RM/T

	FY11	FY12	FY13	FY14	FY15	FY16	FY17
RM/T MC-ITS Development							

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2315: <i>Training Devices/Simulators</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2315				
CACCTUS Program Support	1	2011	4	2017
CACCTUS - SW Dev Release	2	2011	2	2017
DVTE - SW Releases	2	2012	2	2017
Training Support/DVTE S/W Dev Contract	2	2013	2	2013
MILES Continuous Technology Refresh	1	2012	4	2017
MTWS - S/W Dev Contract	4	2011	4	2017
MTWS - S/W Dev Support	4	2011	4	2017
MTWS - Hardware Refresh	4	2013	4	2013
Training Support/MTWS S/W Dev Contract FY12	2	2012	2	2012
Training Support/MTWS S/W Dev Contract FY14-FY17	2	2014	2	2017
RM/T MC-ITS Development	1	2012	4	2017
SAVT Government Engineering Lab Labor	2	2012	4	2014
SITE - Material Solution Analysis	1	2012	4	2017

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2503: <i>Initial Issue</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2503: <i>Initial Issue</i>	12.840	6.888	8.244	-	8.244	9.205	7.914	7.959	8.202	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Family of Combat Equipment Support and Services provides research, development, test and evaluation on low cost items with emphasis on non-developmental/commercially available items. Much of the RDT&E is conducted in coordination/concert with other services and joint organizations, and in consideration of RDT&E efforts being pursued by the other Services. Items approved for procurement will transition into Procurement Marine Corps and the Operation and Maintenance Marine Corps lines for Individual Combat Equipment, Medical Equipment and Shelters. The focus is to provide state of the art combat equipment (e.g. lightweight helmet, sleeping bags, load bearing systems, etc.), medical equipment (e.g. Authorized Medical Allowance (AMAL)/Authorized Dental Allowance (ADAL), Enroute Care, Mobile Medical Monitors, etc.), and Family of Shelters (soft wall, different frames and fabrics, etc.). The benefits will be reduced logistics, less weight, improved combat effectiveness, better echelon I and II care for Marines, improved individual and unit protection, tactical mobility, etc. The employment of state-of-the-art equipment will ensure Marines are equipped with the best items that technology can offer.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<p>Title: *Family of Ballistic Protection Systems</p> <p align="right">Articles:</p> <p>FY 2011 Accomplishments: Explored and implemented new commercial technologies to be inserted into body armor to reduce weight, increase survivability, lethality and mobility. Both torso and head/neck ballistic studies will be conducted to assess blunt trauma/shock forces on the body and how ballistic materials/designs can afford the most protection while reducing weight. Modeling and simulation initiatives will be used to baseline current equipment and enable configuration/compatibility management of new equipment.</p>	6.507 0	-	-	-	-
<p>Title: *Clothing and Flame Resistant Organizational Gear</p> <p align="right">Articles:</p> <p>FY 2011 Accomplishments: Implemented improved design, prototype, user surveys, textile and physical properties testing into the full range of clothing design in response to new uniform initiatives.</p> <p>FY 2012 Plans: Flame Resistant Organizational Gear (FROG) will research and take advantage of advanced technology in fabric and design in conjunction with focus groups and lessons learned from OIF and OEF to improve the present</p>	1.055 0	0.727 0	0.772 0	-	0.772 0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2503: <i>Initial Issue</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
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configuration and will perform fabric lab testing and field user evaluation to down select items that will be used to achieve final designs. Funds will also be used on any new uniform initiatives from the Marine Corps Uniform Board (MCUB) or CMC.

FY 2013 Base Plans:
Continue efforts to utilize technological advances in fabric and design in conjunction with focus groups and lessons learned from OIF and OEF to improve the present configuration. Finalize fabric lab testing and choose a vendor to achieve final designs. Provide funds for a new MCUB and CMC uniform requirement.

Title: *Family of Mountain Cold Weather Clothing & Equipment (FMCWCE)
Articles:

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
	1.006	1.240	1.264	-	1.264
	0	0	0		0

FY 2011 Accomplishments:
Implemented and provided Family of Mountain Cold Weather Clothing and Equipment (MCWCE) capability set of clothing and equipment to facilitate Marine Air-Ground Task Force (MAGTF) operations in mountainous and cold weather environments. Demonstrated progress to reduce the individual load (weight/volume) of the Extreme Cold Weather Bag. Mobility, survivability and sustainability requirements for the Command Element (CE), Combat Service Support Element (CSSE), and the Air Combat Element (ACE) has also been met. This program has substantially improved current inventory items and has added new capabilities such as steep earth and alpine ice equipment for which we train Marines yet have no assets to perform these missions within the operating forces. Rapid technological advances in the outdoor commercial market make it possible to continuously update the capability provided by FMCWCE.

FY 2012 Plans:
Family of Mountain Cold Weather Clothing and Equipment (MCWCE) will provide a capability set of clothing and equipment to facilitate Marine Air-Ground Task Force (MAGTF) operations in mountainous and cold weather environments. The intent is to reduce the individual load (weight/volume) of the Ground Combat Element (GCE), particularly dismounted infantry while maintaining or improving system performance. Mobility, survivability and sustainability requirements for the Command Element (CE), Combat Service Support Element (CSSE), and the Air Combat Element (ACE) will also be met. This program will substantially improve current inventory items and add new capabilities such as steep earth and alpine ice equipment for which we train Marines yet have no assets to perform these missions within the operating forces. Rapid technological advances in the outdoor commercial market make it possible to continuously update the capability provided by FMCWCE.

FY 2013 Base Plans:

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
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Complete product improvements through research of advanced technology necessary to continue FMCWCE capabilities. Continue to improve the capability set of clothing and equipment to facilitate Marine Air-Ground Task Force (MAGTF) operations in mountainous and cold weather environments. Continue to improve current inventory items and implement new capabilities such as casualty evacuation and equipment sleds. Implement rapid technological advances in the outdoor commercial market make it necessary to continuously updates.					
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<p>Title: *Family of Improved Load Bearing Equipment</p> <p align="right">Articles:</p> <p>FY 2011 Accomplishments: Implemented and supported the Marine Corps requirements for a replacement load bearing system, USMC Pack, Chest Rigs and individual water purifier for system improvements throughout the life-cycle of the equipment.</p> <p>FY 2012 Plans: This program will support the Marine Corps requirements for a replacement load bearing system, Corpsman Assault Pack and individual water purifier and will support continual system improvement throughout the life-cycle of the equipment.</p> <p>FY 2013 Base Plans: This program will support the Marine Corps new requirement for load carriage equipment (Pouch Suite) in MarPat. On-going support of individual water purification and load bearing systems throughout the life-cycle of the equipment.</p>	0.460 0	0.328 0	0.335 0	-	0.335 0
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<p>Title: *Family of Individual Warfighter Equipment (formerly Combat Support Equipment)</p> <p align="right">Articles:</p> <p>FY 2011 Accomplishments: Implemented an E-Tool replacement capability. Researched and initiated MBK Ladder initiatives to continue unit operational improvements.</p> <p>FY 2012 Plans: Individual Warfighter Equipment will improve the unit operational capabilities for the field tarp and poncho initiatives.</p> <p>FY 2013 Base Plans:</p>	0.056 0	0.138 0	0.141 0	-	0.141 0
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Individual Warfighter Equipment will continue to improve the unit operational capabilities by enhancing the folding mat, poncho liner, helmet mounted light.					
Title: *Family of Field Medical Equipment	3.286	3.761	4.507	-	4.507
Articles:	0	0	0		0
FY 2011 Accomplishments:					
Continued development of Vaccine and Reagent Refrigeration System (VARRS) to replace all refrigeration except the HEMACOOOL blood refrigerator in the AMAL inventory. The VARRS is rugged, well insulated, and will operate on battery power. The rugged design will improve survivability over the current refrigeration systems in austere environments. Developed Commercial-off-the-shelf/Non-developmental (COTS/NDI) medical equipment items to evaluate their functionality to improve the quality of warfighter's healthcare. Tested Commercial-off-the-shelf/Non-developmental (COTS/NDI) medical equipment items for the Enroute Care System to evaluate functionality for patient transportation post resuscitative surgery in forward echelons and for the replacement of the obsolete Narkomed ruggedized anesthesia machine. Tested other medical equipment items to evaluate their functionality improving the quality of warfighter healthcare and to reduce the logistics footprint of USMC medical equipment. Planned testing and initiation of technology insertion into AMAL/ADALs.					
FY 2012 Plans:					
Continue testing of Commercial-off-the-shelf/Non-developmental (COTS/NDI) medical equipment items for the Enroute Care System to evaluate functionality for patient transportation post resuscitative surgery in forward echelons and for the replacement of the obsolete Narkomed ruggedized anesthesia machine. Testing of other medical equipment items to evaluate their functionality improving the quality of warfighter healthcare and to reduce the logistics footprint of USMC medical equipment. Planned completion of testing and initiation of technology insertion. Testing of mobile and ruggedized field X-ray units to replace current digital radiological units that have exceeded life expectancy.					
FY 2013 Base Plans:					
Continue to test Commercial-Off-The-Shelf/Non-developmental (COTS/NOI) medical equipment items for the Enroute Care System, Forward Resuscitative Surgical System, and X-ray equipment to determine future viability in an operational environment. Test other medical equipment items to evaluate their functionality and ability to improve the quality of healthcare provided to the warfighter and reduce the logistics footprint of USMC medical equipment. Plan to complete testing and initiation of technology insertion. Test mobile and ruggedized field X-ray units to replace current digital radiological units that have exceeded life expectancy. Research					

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
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and Development Studies on the application of Freeze Dried Pooled Plasma within the USMC Health Service Support organization.					
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<p>Title: *Family of Shelters and Shelter Equipment (FSSE)</p> <p align="right">Articles:</p> <p>FY 2011 Accomplishments: Command and Control Systems have out grown the current Modular Command Post Shelter in size and performance. Changing operational doctrine, logistic support systems and advances in technology require development of an advanced lightweight rapid deploying tactical shelter with a minimum of 420 sq. ft. Designed and engineered a soft wall shelter to increase capability, reduce weight, cost and cube. Explored and tested new technologies in coordination with the U.S. Army for insertion into the shelter.</p> <p>FY 2012 Plans: The FY12 FSSE program will continue the exploration and testing of new technologies in coordination with the U.S. Army for insertion into the shelter.</p> <p>FY 2013 Base Plans: The Family of Shelters and Shelter Equipment (FSSE) provides various expeditionary shelters (Rigid & Soft Wall), heating and lighting systems for individual Marines, Personnel Quarters, Command Post, Electronics Maintenance Shelters, Combat Operations Centers, and Forward Operating Bases that directly support Marines in all combat environments. In FY13 the FSSE program will continue to research the capitalization of Energy Efficient technologies, reducing the logistical footprint that will provide lighter weight, modular shelter systems and ancillary equipment for all Marine Corps missions.</p>	0.134 0	0.077 0	0.826 0	-	0.826 0
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<p>Title: *Family of Combat Field Feeding</p> <p align="right">Articles:</p> <p>FY 2011 Accomplishments: Completed research and development for an improved combat field feeding system for heating individual rations. Tested individual ration heater concepts and equipment. Researched and completed analysis to reduce the hazardous components within the Enhanced Tray Ration Heating System (ETRHS) Sink. Completed research and analysis of the improved Expeditionary Field Kitchen (EFK) Light set.</p> <p>FY 2012 Plans:</p>	0.336 0	0.617 0	0.399 0	-	0.399 0
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Continue research to improvements on current technology for heating individual rations will be explored to test individual ration heater concepts and equipment. Initiate research of current Tray Ration Heater System to reduce the footprint size. <i>FY 2013 Base Plans:</i> Continue to research and test multiple solutions to reduce the foot print size for the Tray Ration Heater System. Research and initiate analysis for improving current sanitation systems.					
Accomplishments/Planned Programs Subtotals	12.840	6.888	8.244	-	8.244

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	<u>Cost To Complete</u>	<u>Total Cost</u>
• PMC/652200: <i>Field Medical Equipment</i>	4.805	32.386	15.317	0.000	15.317	19.823	20.272	9.380	11.464	0.000	156.811
• PMC/661300: <i>Combat Field Feeding System</i>	4.424	5.026	8.365	0.000	8.365	5.221	2.861	2.883	2.944	0.000	57.831
• PMC/652201: <i>Family of Shelters & Shelter Equipment</i>	0.000	0.000	31.502	0.000	31.502	16.306	3.875	3.555	3.375	0.000	58.613

D. Acquisition Strategy
 Family of Ballistic Protection Systems, Family of Mountain Cold Weather Clothing and Equipment, Family of Improved Load Bearing Equipment, Family of Individual Warfighter Equipment, Clothing and Flame Resistant Organizational Gear, and Combat Field Feeding Systems items utilize various acquisition strategies. These programs leverage heavily on current developments and technology in commercial industry. As a result, the government's R&D phase is relatively short. Contracting is performed by either Marine Corps Systems Command Contracting Directorate, the Naval Research Laboratory or the U.S. Army Natick Soldier Research, Development and Engineering Center via Indefinite Delivery/Indefinite Quantity (ID/IQ) contracts. ID/IQ contracts are used to decrease the government risk, allow maximum contract flexibility and capitalize on the savings realized by utilizing Economic Order Quantities.
 Shelters: The Shelter acquisition strategy is to modify Non-Developmental Items (NDI) to further meet the requirements of the Marine Corps, to support development of multi-service items through inter-service agreements and to adopt Commercial-Off-the-Shelf (COTS) items.
 Family of Field Medical Equipment: These programs leverage heavily on current development and technology in the commercial medical industry. The field medical acquisition strategy is to modify Non-Developmental Items (NDI) and adopt Commercial-Off-the-Shelf (COTS) items.

E. Performance Metrics
 N/A

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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Family of Ballistic Protection Systems	MIPR	USA NSRDEC:Natick, MA	7.168	-		-		-		-	Continuing	Continuing	Continuing
Family of Ballistic Protection Systems	WR	NRL:Washington, DC	16.093	-		-		-		-	Continuing	Continuing	Continuing
Family of Ballistic Protection Systems	WR	ONR:Arlington, VA	0.346	-		-		-		-	Continuing	Continuing	Continuing
Improved Load Bearing Equipment	MIPR	USA NSRDEC:Natick, MA	2.726	0.328	Jan 2012	0.335	Jan 2013	-		0.335	Continuing	Continuing	Continuing
Family of Mountain Cold Weather	MIPR	USA NSRDEC:Natick, MA	4.082	0.310	Jan 2012	0.143	Jan 2013	-		0.143	Continuing	Continuing	Continuing
Combat Field Feeding Systems	MIPR	USA NSRDEC:Natick, MA	1.727	0.401	Jan 2012	0.323	Jan 2013	-		0.323	Continuing	Continuing	Continuing
Individual Warfighter Equipment	MIPR	USA NSRDEC:Natick, MA	0.145	0.064	Mar 2012	0.114	Jan 2013	-		0.114	Continuing	Continuing	Continuing
Clothing & FR Organizational Gear	MIPR	USA NSRDEC:Natick, MA	2.794	0.494	Dec 2011	0.524	Jan 2013	-		0.524	Continuing	Continuing	Continuing
Family of Field Medical	MIPR	USAMRMC:Ft. Detrick, MD	0.211	-		-		-		-	0.000	0.211	
Family of Field Medical	MIPR	USAMRMC:Ft. Detrick, MD	0.316	-		-		-		-	0.000	0.316	
Family of Field Medical	WR	NMRC:Silver Spring, MD	1.042	1.795	Jan 2012	-		-		-	0.000	2.837	
Family of Field Medical	MIPR	AFMESA:Ft. Detrick, MD	3.148	1.356	Feb 2012	0.741	Feb 2013	-		0.741	0.000	5.245	
Subtotal			39.798	4.748		2.180		-		2.180			

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Family of Field Medical	WR	NHRC:San Diego, CA	0.736	0.360	Dec 2011	-		-		-	0.000	1.096	

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Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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			0.736	0.360		-		-		-	0.000	1.096	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Family of Individual Warfighter Equipment	MIPR	USA NSRDEC:Natick, MA	-	-		0.015	Jan 2013	-		0.015	0.000	0.015	
Family of Individual Warfighter Equipment	C/FP	MCSC:Quantico, VA	-	-		0.012	Jan 2013	-		0.012	0.000	0.012	
Family of Combat Field Feeding	MIPR	USA NSRDEC:Natick, MA	-	-		0.076	Jan 2013	-		0.076	0.000	0.076	
Family of Shelter and Shelter Equipment	MIPR	ATC:Aberdeen Proving Ground	-	-		0.014	Feb 2013	-		0.014	0.000	0.014	
Family of Field Medical	MIPR	USAMRMC:Ft. Detrick, MD	0.135	-		-		-		-	0.000	0.135	
Family of Field Medical	MIPR	USAMRAA:Ft. Detrick, MD	1.140	-		-		-		-	0.000	1.140	
Family of Shelters & Shelter Equipment	MIPR	USA NSRDEC:Natick, MA	0.281	0.077	Dec 2011	0.812	Jan 2013	-		0.812	0.000	1.170	
Family of Ballistic Protection Systems	MIPR	USA NSRDEC:Natick, MA	7.201	-		-		-		-	Continuing	Continuing	Continuing
Family of Ballistic Protection Systems	SS/CPFF	MCSC:Quantico VA	2.859	-		-		-		-	Continuing	Continuing	Continuing
Family of Mountain Cold Weather	MIPR	USA NSRDEC:Natick, MA	2.949	0.425	Dec 2011	0.675	Jan 2013	-		0.675	Continuing	Continuing	Continuing
Family of Mountain Cold Weather	C/FP	MCSC:Quantico, VA	0.070	-		-		-		-	Continuing	Continuing	Continuing
Family of Field Medical	WR	NAMRUSA:San Antonio, TX	-	0.060	Jan 2012	-		-		-	0.000	0.060	
Family of Field Medical	WR	NHRC:San Diego, CA	-	0.053	Dec 2011	-		-		-	0.000	0.053	

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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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			
Family of Field Medical	MIPR	AFMESA:Ft. Detrick, MD	-	0.137	Dec 2011	3.766	Feb 2013	-		3.766	0.000	3.903	
Subtotal			14.635	0.752		5.370		-		5.370			

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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			
Family of Field Medical	Various	MCSC:Quantico, VA	0.060	-		-		-		-	0.000	0.060	
Family of Mountain Cold Weather	MIPR	USA NSRDEC:Natick, MA	2.042	0.505	Dec 2011	0.446	Jan 2013	-		0.446	Continuing	Continuing	Continuing
Family of Individual Warfighter Equipment	C/FP	MCSC:Quantico, VA	0.302	0.074	Jan 2012	-		-		-	0.000	0.376	
Combat Field Feeding Systems	C/FP	MCSC:Quantico, VA	0.498	0.216	Dec 2011	-		-		-	Continuing	Continuing	Continuing
Clothing & FR Organizational Gear	MIPR	USA NSRDEC:Natick, MA	1.143	0.233	Dec 2011	0.248	Dec 2012	-		0.248	Continuing	Continuing	Continuing
Subtotal			4.045	1.028		0.694		-		0.694			

	Total Prior Years Cost	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		59.214	6.888	8.244	-	8.244		

Remarks

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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2513: <i>Body Armor</i>	-	5.332	3.692	-	3.692	5.608	4.841	4.919	5.037	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note
This project was previously in Project C2503 Initial Issue under Family of Ballistic Protection.

A. Mission Description and Budget Item Justification

Body Armor Development (BAD) provides the most technologically advanced ballistics protection at the lightest weight in the world today. With current combat operations, these items have generated considerable Congressional and public interest since these items are considered life-saving equipment. When evaluated in total, BAD programs provide the critical systems that save lives, reduce the severity of combat injuries, and increase combat effectiveness by keeping more Marines in the fight. A key component of all of the BAD programs is that as new threats emerge on the battlefield, BAD equipment must constantly adapt to meet these new threats. BAD programs are truly a force multiplier on the battlefield of today and tomorrow. It includes Modular Tactical Vest (MTV), Enhanced Small Arms Protective Inserts (ESAPI), Helmet, and Eye Protection.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Body Armor Development	-	5.332	3.692	-	3.692
Articles:		0	0		0
FY 2012 Plans: Explore new commercial technologies to be inserted into body armor to reduce weight, increase survivability, lethality and mobility. Conduct both torso and head/neck ballistic studies to assess blunt trauma/shock forces on the body and how ballistic materials/designs can afford the most protection while reducing weight (Plate Carriers, Next Generation Vests). Modeling and simulation initiatives will baseline current equipment and enable configuration/compatibility management of new equipment.					
FY 2013 Base Plans: Continue to explore new commercial technologies to be inserted into body armor to reduce weight, increase survivability, lethality and mobility. Conduct both torso and head/neck ballistic studies to assess blunt trauma/shock forces on the body and how ballistic materials/designs can afford the most protection while reducing weight. Modeling and simulation initiatives will baseline current equipment and enable configuration/compatibility management of new equipment (Next Generation Tactical Vest, FSBE Product Enhancements).					
Accomplishments/Planned Programs Subtotals	-	5.332	3.692	-	3.692

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C. Other Program Funding Summary (\$ in Millions) N/A		
D. Acquisition Strategy Marine Corps Body Armor Research, Development, Testing & Evaluation activities include seeking new developments in ballistic technology that feature reductions in weight, improvements in ballistic performance, enhanced operational effectiveness through improved product designs and the application of new material technologies to reduce total ownership costs by improving the expected service life of fielded systems. In order to accomplish these goals PM-Infantry Combat Equipment (ICE) uses a broad array of government and contractor performers to achieve the desired end state. This includes efforts being conducted in conjunction with partnered government performers, research and development contracts and partnership intermediaries where applicable. The Marine Corps also seeks to leverage advancements in industry capabilities to rapidly field nondevelopmental and commercially available off the shelf armor solutions after confirming performance through characterizing ballistic performance and expected subjective user acceptance as measured during user evaluations.		
E. Performance Metrics N/A		

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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2928: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>	1.523	1.946	2.353	-	2.353	2.405	2.448	2.488	2.548	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

High Mobility Artillery Rocket Systems (HIMARS) is a C-130 transportable, wheeled, indirect fire, rocket/missile system capable of firing all rockets and missiles in the current and future Multiple Launch Rocket System (MLRS) Family of Munitions (MFOM). The system includes one launcher, two Re-Supply Systems, and the MFOM. HIMARS will provide the Fleet Marine Force with 24 hour ground-based, responsive General Support/General Support Reinforcing (GS/GSR) indirect fires which accurately engage targets at long range (60+km) with high volumes of lethal fire under all weather conditions throughout all phases of combat operations ashore to include irregular warfare and distributed operations. HIMARS is a significant improvement over currently fielded ground fire support systems. During a 24 hour period, the system will be expected to conduct multiple moves and multiple fire missions. Guided Multiple Launch Rocket System (GMLRS) is the primary munition for units fielded with the HIMARS and MLRS rocket and missile platforms. GMLRS provides close, medium, and long range precision and area fires to destroy, suppress, and shape threat forces and protect friendly forces against cannon, mortar, rocket and missile artillery, light material and armor, personnel, command and control, and air defense surface targets. GMLRS integrates guided and control packages and an improved rocket motor achieving greater range and precision accuracy, requiring fewer rockets to defeat targets, thereby reducing the logistics burden. The two fielded variants are GMLRS with Dual Purpose Improved Conventional Munitions (DPICM/Increment 1) and GMLRS Unitary (U/Increment 2), a 200 pound class high explosive warhead. The GMLRS U is the only variant currently in production, integrating a multi-mode fuse and high explosive warhead making it an all weather, low collateral damage, precision strike rocket. GMLRS U expands the MLRS target set into urban and complex environments by adding point, proximity, and delay fusing modes. GMLRS U are being fired in support of Overseas Contingency Operations (OCO), and has demonstrated high effectiveness and low collateral damage while supporting Marines in combat. A third variant of GMLRS, the alternative warhead (AW/Increment 3) is being developed to replace DPICM and meet the requirements outlined in a 25 June 2008 cluster munitions policy, which requires all cluster munitions by 2019 to produce less than 1% Unexploded Ordnance (UXO) on the battlefield. HIMARS will satisfy the Marine Corps requirement for an indirect fire system that is responsive, maneuverable, and is capable of engaging targets at long range. The Reduced Range Practice Rocket (RRPR) includes training devices for tactical training, classroom training and handling exercises.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: HIMARS Systems Engineering	1.173	1.786	1.260	-	1.260
Articles:	0	0	0		0
Description: Primary and ancillary hardware development and systems engineering support, includes Navy, Marine Corps, Army and contractor development efforts. The U.S. Army Program Office continues to provide system updates to accommodate emerging requirements such as armor upgrades and enhanced					

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)						
		FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
communications. This element provides engineering support to meet the unique requirements of the Marine Corps and for the integration of the changes into the all Marine Corps inventory.						
FY 2011 Accomplishments: Develop improved Guided Multiple Launch Rocket System (GMLRS) Ignition safety devices and conduct development on improved fire control systems.						
FY 2012 Plans: Conduct development on improved fire control systems and to provide engineering support to the Army activity program office to develop alternate warheads.						
FY 2013 Base Plans: Conduct development on improved fire control systems and to provide engineering support to the Army activity program office to develop alternate warheads.						
Title: HIMARS Testing		0.205	-	0.914	-	0.914
		Articles: 0		0		0
Description: Support Test and Evaluation Program with Army. Support Test and Evaluation Program for Marine Corps Principle End Items. The U.S. Army Program Office continues to provide improvements such as the alternate warheads. This funding includes support and oversight to ensure testing supports Marine Corps requirements.						
FY 2011 Accomplishments: Support Test and Evaluation Program with Army. Support Test and Evaluation Program for Marine Corps Principle End Items. The U.S. Army Program Office continues to provide improvements such as the alternate warheads. This funding includes support and oversight to ensure testing supports Marine Corps requirements.						
FY 2013 Base Plans: Support Test and Evaluation Program with Army. Support Test and Evaluation Program for Marine Corps Principle End Items. The U.S. Army Program Office continues to provide improvements such as the alternate warheads. This funding includes support and oversight to ensure testing supports Marine Corps requirements.						
Title: HIMARS Program Support		0.145	0.160	0.179	-	0.179
		Articles: 0	0	0		0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2928: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<p>Description: Program Management at Quantico, Marine Corps Liaison Office at Army Program, USMC Test Unit at Ft Sill, and contractor support. HIMARS is a joint program run from the Army Program Office at Huntsville, AL. Marine Corps provides onsite liaison with the Army at Huntsville to support joint acquisition and program planning.</p> <p>FY 2011 Accomplishments: Program Management at Quantico, Marine Corps Liaison Office at Army Program, USMC Test Unit at Ft Sill, and contractor support. HIMARS is a joint program run from the Army Program Office at Huntsville, AL. Marine Corps provides onsite liaison with the Army at Huntsville to support joint acquisition and program planning.</p> <p>FY 2012 Plans: Program Management at Quantico, Marine Corps Liaison Office at Army Program, USMC Test Unit at Ft Sill, and contractor support. HIMARS is a joint program run from the Army Program Office at Huntsville, AL. Marine Corps provides onsite liaison with the Army at Huntsville to support joint acquisition and program planning.</p> <p>FY 2013 Base Plans: Program Management at Quantico, Marine Corps Liaison Office at Army Program, USMC Test Unit at Ft Sill, and contractor support. HIMARS is a joint program run from the Army Program Office at Huntsville, AL. Marine Corps provides onsite liaison with the Army at Huntsville to support joint acquisition and program planning.</p>					
Accomplishments/Planned Programs Subtotals	1.523	1.946	2.353	-	2.353

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

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PMC/BLI 221200: <i>High Mobility Artillery Rocket System (HIMARS)</i>	165.301	25.183	156.859	0.000	156.859	50.123	90.636	50.691	50.247	Continuing	Continuing

D. Acquisition Strategy

USMC HIMARS is procuring the Army rocket launcher, the current/future Multiple Launch Rocket System Family of Munitions (MFOM) and developing an Medium Tactical Vehicle Replacement (MTVR) based Resupply System (truck(s) with associated trailer(s)). The Marine Corps launcher and ammo requirements closely match U.S. Army requirements. The US Army HIMARS program received increased funding and is now an Acquisition Category ACAT IC level program. Marine Corps Resupply System requirements are unique. Accordingly, the Marine Corps is an integrator and must ensure the required warfighting capability is fielded to the Marine Corps operating forces. The USMC has aligned funds to reflect an emphasis on not only hardware development, but also the integration of these principle end items

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	2928: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>

while providing associated evaluation and oversight, and the development of associated rocket munitions in conjunction with the Army. Additionally, the Marine Corps program is establishing the training and support methodologies that will result in associated skill sets required within the Marine Corps. The Marine Corps strategy is incorporating acquisition and capability upgrades to both the systems and rocket munitions. These improvements parallel the US Army's acquisition strategy.

E. Performance Metrics

Milestone Reviews

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2928: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	MIPR	Redstone Arsenal:Redstone, AL	4.017	1.786	Feb 2012	1.260	Mar 2013	-		1.260	0.000	7.063	
Subtotal			4.017	1.786		1.260		-		1.260	0.000	7.063	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	MIPR	Redstone Test Ctr:Redstone, AL	1.922	-		0.913	Mar 2013	-		0.913	0.000	2.835	
Subtotal			1.922	-		0.913		-		0.913	0.000	2.835	

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 Mngmnt	C/FFP	MCSC:Quantico, VA	5.400	0.160	Jan 2012	0.180	Jun 2013	-		0.180	0.000	5.740	
Subtotal			5.400	0.160		0.180		-		0.180	0.000	5.740	

			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			11.339	1.946		2.353		-		2.353	0.000	15.638	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2928: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>
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Proj 2928	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017							
	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				
GMLRS	▲												▲								▲	▲										

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 2928: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2928				
GMLRS: GMLRS Alternative Warhead Milestone B: GMLRS Alternative Warhead Milestone B	1	2011	1	2011
GMLRS: GMLRS Alternative Warhead Milestone C: GMLRS Alternative Warhead Milestone C	1	2014	1	2014
GMLRS: GMLRS Alternative Warhead Operational Test: GMLRS Alternative Warhead Operational Test	2	2015	2	2015
GMLRS: GMLRS Alternative Warhead Full Rate Production: GMLRS Alternative Warhead Full Rate Production	3	2015	3	2015

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 3098: <i>Fire Support System</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
3098: <i>Fire Support System</i>	13.965	27.219	17.785	-	17.785	26.612	12.681	9.021	6.619	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 joint and Marine Corps unique improvements to artillery fire support technology that supports the artillery triad of fires and fire support equipment. These initiatives include but are not limited to the following: the Expeditionary Fire Support System (EFSS), munitions development & testing (to include rocket munitions), as well as testing and development of the Family of Artillery Munitions (FAM), Common Laser Ranger Finder (CLRF) integrated capability, and the Modeled Meteorological Information Manager (MMIM). The Expeditionary Fire Support System is an all-weather, ground based indirect fire system designed to support the vertical assault element of the Ship-To-Objective Maneuver (STOM) force. The EFSS is defined as a Launcher, Mobility Platform (prime mover), Ammunition, Ammunition Supply Vehicle, and Technical Fire Direction and Control equipment necessary for orienting weapons to an azimuth of fire. EFSS supports irregular warfare and distributed operations. The Common Laser Range Finder (CLRF) is a lightweight, eye-safe target laser rangefinder capable of being carried and employed by a single Marine. CLRF Integrated Capability (CLRF IC) is a replacement to the existing CLRF Suite of Equipment. CLRF IC provides the observer the ability to perform target detection, recognition, identification, and location determination in a suite of systems. The Modeled Meteorological Information Manager (MMIM) will be the primary artillery meteorological capability at the artillery battalion and regiment providing the ability to create, receive, manage, and transmit near real time gridded meteorological information supporting artillery and target acquisition systems significantly enhancing the accuracy of meteorological information. The Fire Support Mod Line provides technical refresh, development of target acquisition, and artillery survey and meteorological systems. Funding is used to ensure Clinger Cohen Act (CCA) and Information Assurance (IA) requirements are met, execution of product improvements/modifications, and upgrades to system hardware and software for the Ground Counter Fire Sensor (GCFS), Marine Artillery Survey Set (MASS), Meteorological Station Group (MSG), Global Positioning System Survey (GPS-S) and the Improved Position Azimuth Determining System (IPADS), Lightweight Target Designator (LTD) and the Common Laser Ranger Finder (CLRF) as well as for upgrades, engineering change proposals, and modifications for guided munitions and fire control systems.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Common Laser Range Finder (CLRF)	1.713	11.610	0.920	-	0.920
Articles:	0	0	0		0
Description: The Common Laser Range Finder (CLRF) is a lightweight, eye-safe target laser rangefinder capable of being carried and employed by a single Marine. CLRF Integrated Capability (CLRF IC) is a replacement to the existing CLRF Suite of Equipment. CLRF IC provides the observer the ability to perform target detection, recognition, identification, and location determination in a suite of systems.					
FY 2011 Accomplishments:					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 3098: <i>Fire Support System</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<p>Developed capabilities identified in the Advanced Eye safe Rangefinder Observation System (AEROS) Operational Requirements Document (ORD). This change established the requirement for a CLRF that integrates the capabilities of a suite of five components into one handheld device (CLRF IC).</p> <p>FY 2012 Plans: CLRF-IC development efforts continue in the Technology Development Phase focusing on weight reduction and integration of a precise, non-magnetic azimuth sensing capability.</p> <p>FY 2013 Base Plans: CLRF IC development efforts continue in the Technology Development Phase focusing on weight reduction and integration of a precise, non-magnetic azimuth sensing capability.</p>					
<p>Title: Modeled Meteorological Information Manager (MMIM)</p> <p align="right">Articles:</p> <p>Description: The Modeled Meteorological Information Manager (MMIM) will be the primary artillery meteorological capability at the artillery battalion and regiment providing the ability to create, receive, manage, and transmit near real time gridded meteorological information supporting artillery and target acquisition systems significantly enhancing the accuracy of meteorological information. MMIM will save over \$1.3 million in annual operations, maintenance and fuel costs by eliminating the requirement for 42 M1152 High Mobility Multi-purpose Wheeled Vehicles, 21 M101A3 Trailers and 21 OV-103 Generator Groups associated with the current legacy capability.</p> <p>FY 2011 Accomplishments: In FY11 MMIM obtained a MS B decision and conducted Functional Integration Testing (FIT).</p> <p>FY 2012 Plans: MMIM will complete the Engineering Manufacturing Development phase, obtain a MS C decision, undergo a Field User Evaluation (FUE) and begin fielding. MMIM removes the requirement to employ balloon borne radiosondes eliminating the logistical requirements associated with the current capability. In addition to significant savings in operation and maintenance expenses, MMIM enhances capability by providing real time information and autonomy required to support current combat operations and future operational concepts consistent with the Marine Corps.</p> <p>FY 2013 Base Plans:</p>	0.950 0	0.486 0	0.249 0	-	0.249 0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy				DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>		PROJECT 3098: <i>Fire Support System</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					
MMIM will integrate existing MET sensors with the Air Force Weather Agency (AFWA) data.					
Title: Expeditionary Fire Support Systems (EFSS)					
Articles:					
<p>Description: EFSS is an all-weather, ground based indirect fire system designed to support the vertical assault element of the Ship-To-Objective Maneuver (STOM) force. EFSS is defined as a Launcher, Mobility Platform (prime mover), Ammunition, ammunition Supply Vehicle, and Technical Fire Direction and control equipment necessary for orienting weapons to an azimuth of fire. EFSS supports irregular warfare and distributed operations.</p> <p>FY 2011 Accomplishments: In FY11 the program provided EFSS weapon system upgrades, specifically digitization (there is currently a communications gap to the system) to support the guided rounds. Also provided were extended range guided ammunition development, and it also developed and produced hardware for the guided rounds and had the various field activities test the hardware. Integration to ballistics and firing tables (software development) and qualification of energetics were also performed.</p> <p>FY 2012 Plans: EFSS weapon system upgrades, specifically digitization (there is currently a communications gap to the system) to support the guided rounds. Extended range guided ammunition development. Develop and produce hardware for the guided rounds and have the various field activities test the hardware. Integration to ballistics and firing tables (software development) and qualification of energetics.</p> <p>FY 2013 Base Plans: EFSS weapon system upgrades, specifically digitization (there is currently a communications gap to the system) to support the guided rounds. Extended range guided ammunition development. Develop and test hardware for the guided rounds and have the various field activities test the hardware. Integration to ballistics and firing tables (software development) and qualification of energetics.</p>					
Articles:					
<p>Title: Fire Support Mods (FSM)</p> <p>Description: Funding is used for upgrades, engineering change proposals (ECP) and modifications to system hardware and software for the Ground Counter Fire Sensor (GCFS), Marine Artillery Survey Set (MASS), Meteorological Station Group (MSG), Global Positioning System Survey (GPS-S), the Improved Position</p>					
Articles:					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy				DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>		PROJECT 3098: <i>Fire Support System</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					
Azimuth Determining System (IPADS) and the Joint Terminal Attack Controller-Laser Target Designator (JTAC-LTD) as well as technical refresh for target acquisition, and artillery survey and meteorological systems. Funding is also used for upgrades, ECP and modifications for guided munitions and fire control systems which falls within Fire Support Systems for the Marine Corps.					
FY 2011 Accomplishments: Funding was used to develop and mature precise azimuth sensing technology and research MET sensor integration, event classification and digital communications for GCFS.					
FY 2012 Plans: Funding will be used to develop, build, test, and deliver GCFS Command Post Computer software to run on Intel hardware platform and communicate digitally with AFATDS.					
FY 2013 Base Plans: Funding will be used for development and testing of event classification for GCFS.					
Title: Family of Artillery Munitions (FAM)					
Articles:					
	0.510	0.316	0.323	-	0.323
	0	0	0		0
Description: Funding is used to develop and mature atrillery munitions for the Marine Corps triad of fire.					
FY 2011 Accomplishments: Supported development of Advanced Cannon Artillery (ACAAP) and Excalibur to include Weapons Systems Explosives Safety Review Board (WSESRB) testing, program support, and travel. Actively monitored and provided funding for U.S. Army artillery ammunition development programs in order to leverage and influence Army developmental efforts.					
FY 2012 Plans: Support development of Advanced Cannon Artillery (ACAAP) and Excalibur to include Weapons Systems Explosives Safety Review Board (WSESRB) testing, program support, and travel. Actively monitor and provide funding for U.S. Army artillery ammunition development programs in order to leverage and influence Army developmental efforts.					
FY 2013 Base Plans:					

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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 3098: <i>Fire Support System</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
XM112 CATT I/II development at Aberdeen Proving Ground. Actively monitor and provide funding for U.S. Army artillery ammunition development programs in order to leverage and influence Army developmental efforts.					
<p>Title: Insensitive Munitions</p> <p align="right">Articles:</p> <p>Description: All DoD services are required to field munitions that are insensitive munitions (IM) compliant. IM compliancy is measured by the performance of munitions to six tests; Fast Cook-Off, Slow Cook-Off, Bullet Impact, Fragment Impact, Sympathetic Detonation, and Shape Charge Jet. Services are required to submit IM Strategic Plans annually delineating how they intend on executing their Service IM effort to maximize IM improvements to both new development and legacy munitions. These IM Strategic Plans and Supporting Plan of Actions and Milestones, with funding trial, are submitted to the JROC, demonstrating each Service's commitment to the continuing effort to improve IM, for approval. In order to achieve the system's IM performance, a weapon system's developer must have new technology to apply to its poorly performing IM system.</p> <p>FY 2011 Accomplishments: Two programs are included in the Insensitive Munitions (IM) funding line; Insensitive Munitions and Marine Ammunition Knowledge Enterprise (MAKE). The IM development focused on improved packaging materials/ design, venting technology, development/ incorporation of a less sensitive propelling charge and all associated munitions qualification testing of the incorporated technologies. The MAKE effort developed an enterprise knowledge repository designed, evolved and updated to facilitate knowledge dominance. MAKE provided the enterprise web based access to data and information to enable the decision making process.</p> <p>FY 2012 Plans: Two programs are included in the Insensitive Munitions (IM) funding line; Insensitive Munitions and Marine Ammunition Knowledge Enterprise (MAKE). The IM development will focus on improved packaging materials/ design, venting technology, development/ incorporation of a less sensitive propelling charge and all associated munitions qualification testing of the incorporated technologies. The MAKE effort develops an enterprise knowledge repository designed, evolved and updated to facilitate knowledge dominance. MAKE provides the enterprise web based access to data and information to enable the decision making process.</p> <p>FY 2013 Base Plans: Continued support for all IM Testing as needed.</p>	1.133 0	1.108 0	1.138 0	-	1.138 0
<p>Title: Internally Transportable Vehicle (ITV)</p> <p align="right">Articles:</p>	-	-	6.178 0	-	6.178 0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 3098: <i>Fire Support System</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<p>Description: Internally Transportable Vehicle (ITV) program fields expeditionary vehicles to ground units to support various operations. It provides the Marine Air-Ground Task Force (MAGTF) ground combat units with a vehicle transportable in CH53-E and MV-22 aircraft. The ITV is an integral part of the Expeditionary Fire Support System (EFSS).</p> <p>FY 2013 Base Plans: Develop a tech data package for Internally Transportable Vehicle (ITV); to mitigate risks in supply and to enable government to compete requirement and introduce competition in future years.</p>					
Accomplishments/Planned Programs Subtotals	13.965	27.219	17.785	-	17.785

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PMC/2064: <i>Expeditionary Fire Support Systems</i>	9.802	11.961	2.502	0.000	2.502	0.604	10.382	24.385	26.401	0.000	153.712
• PMC/4733: <i>Common Laser Range Finder (CLRF)</i>	0.000	0.035	3.249	0.000	3.249	8.582	11.337	11.531	11.728	0.000	46.462
• *PMC/4733: <i>Modeled Meterological Information Manager (MMIM)</i>	1.329	1.921	1.500	0.000	1.500	0.250	0.250	0.500	0.500	0.000	6.936
• **PMC/4733: <i>Fire Support Mods</i>	7.140	2.549	2.570	0.000	2.570	3.495	3.767	3.881	3.997	0.000	67.036

D. Acquisition Strategy
 These programs range from off-the-shelf modifications to developmental items. Development will typically be conducted at government labs. Provides WESRB certification to bring ordnance into the Marine Corps inventory. Fire power enhancement used selected upgrades from Army developmental programs to create a system that more readily meets Marine Corps requirements. MMIM will consist almost entirely of component integration and testing followed by a Limited User Evaluation and fielding. CLRF-IC is a developmental program utilizing progressive competition. GCFS effort consists of development and testing at a government facility.

E. Performance Metrics
 N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 3098: <i>Fire Support System</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
ITV Reverse Engineer	TBD	TBD:Contract	-	-		5.000	Feb 2013	-		5.000	0.000	5.000	
EFSS	C/FFP	GDOTS:St. Petersburg, FL	23.190	9.931	May 2012	7.027	Jan 2013	-		7.027	0.000	40.148	
Fire Support Mods	TBD	TBD:Contract	8.063	1.518	Jan 2012	-		-		-	0.000	9.581	
Fire Support Mods	WR	NSWC DD:Dahlgren, VA	-	-		1.195	Nov 2012	-		1.195	0.000	1.195	
CLRF	TBD	TBD:Contract	3.183	11.610	Feb 2012	-		-		-	0.000	14.793	
CLRF	WR	NSWC DD:Dahlgren, VA	-	-		0.920	Nov 2012	-		0.920	0.000	0.920	
MMIM	MIPR	FT. Monmouth:Ft. Monmouth, MJ	-	0.300	Nov 2011	-		-		-	0.000	0.300	
MMIM	MIPR	ARL:White Sands, NM	-	0.186	Dec 2011	-		-		-	0.000	0.186	
Insensitive Munitions1	C/FFP	GDOTS:St. Petersburg, FL	1.820	1.108	Jun 2012	-		-		-	0.000	2.928	
Insensitive Munitions	TBD	Not Specified:Not Specified	-	-		1.138	Jan 2013	-		1.138	0.000	1.138	
Subtotal			36.256	24.653		15.280		-		15.280	0.000	76.189	

Remarks
Funds will be used to develop a tech data package based on rapid reverse engineer technique. Prototype development will concurrently be performed to allow for test and validation of the tech data package.

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Need Item Text	C/BA	Not Specified:Not Specified	-	-		-		-		-	0.000	0.000	
Fam Artillery Munitions	WR	BAEST:Stafford, VA	1.699	0.316	Jun 2012	-		-		-	0.000	2.015	
Subtotal			1.699	0.316		-		-		-	0.000	2.015	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 3098: <i>Fire Support System</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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			
ITV	MIPR	APG:Aberdeen, MD	-	-		1.000	Aug 2013	-		1.000	0.000	1.000	
EFSS	WR	NSWCDD:Dahlgren, VA	3.862	2.000	Mar 2012	-		-		-	0.000	5.862	
EFSS	WR	MCPD:Fallbrook, CA	6.259	0.250	Mar 2012	-		-		-	0.000	6.509	
MMIM	WR	NSWC DD:Dahlgren, VA	-	-		0.249	Dec 2012	-		0.249	0.000	0.249	
Fire Support Mods	WR	NSWC DD:Dahlgren, VA	-	-		0.495	Nov 2012	-		0.495	0.000	0.495	
Fire Support Mods	Allot	MCOTEA:MCOTEA	-	-		0.260	Nov 2012	-		0.260	0.000	0.260	
FAM	WR	Aberdeen Proving Ground:Aberdeen, MD	-	-		0.323	Jan 2013	-		0.323	0.000	0.323	
Subtotal			10.121	2.250		2.327		-		2.327	0.000	14.698	

Remarks
Prototype testing required to validate configuration; will begin at Aberdeen Proving Ground in Fiscal Year 2013.

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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			
ITV	C/FFP	TBD:TBD	-	-		0.178	Oct 2012	-		0.178	0.000	0.178	
Subtotal			-	-		0.178		-		0.178	0.000	0.178	

Remarks
To acquire necessary skills in support of program management for ITV.

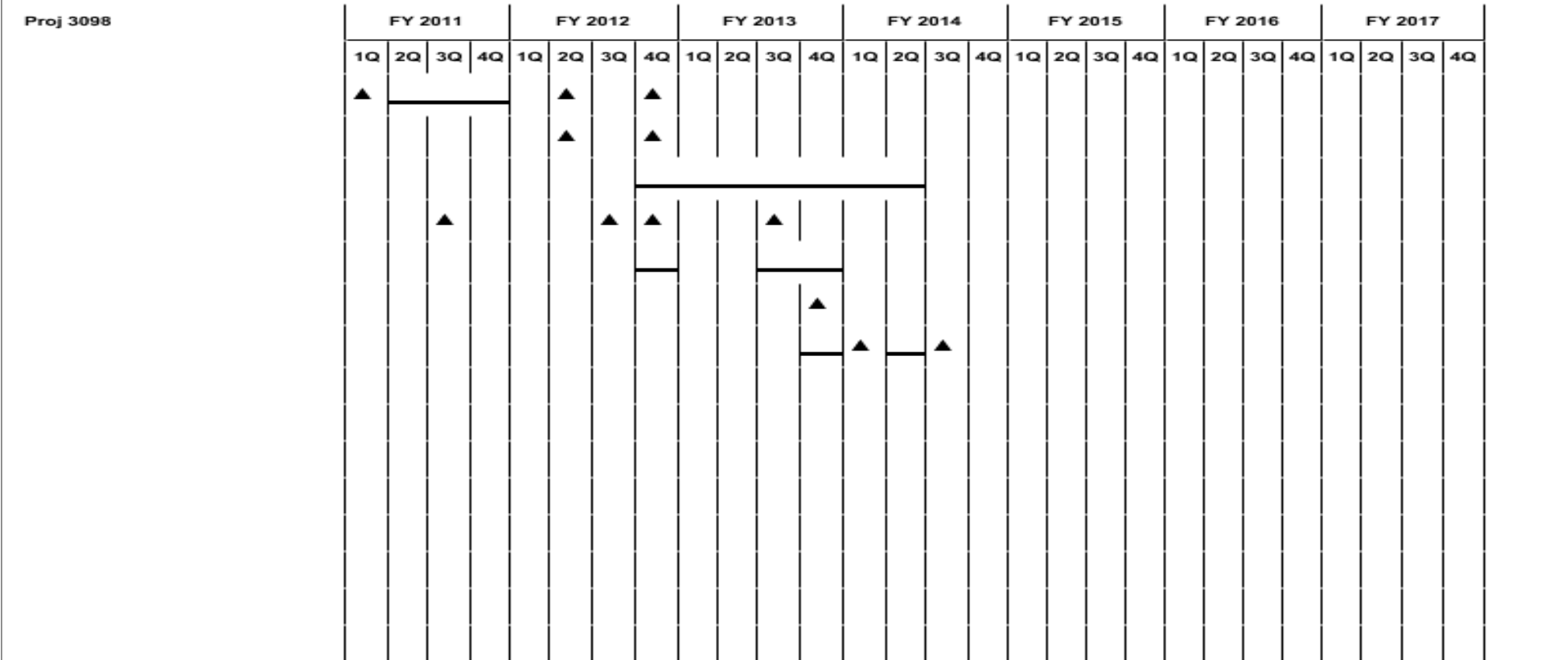
	Total Prior Years Cost	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		48.076	27.219	17.785	-	17.785	0.000	93.080

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 3098: <i>Fire Support System</i>
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2013PB - 0206623M - 3098

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 3098: <i>Fire Support System</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 3098				
EFSS Full Operation Capability	4	2012	4	2012
MMIM MS B	1	2011	1	2011
MMIM System Integration & Test	2	2011	4	2011
MMIM LUE	2	2012	2	2012
MMIM MS C	2	2012	2	2012
MMIM IOC	4	2012	4	2012
MMIM MSG Phase Out	4	2012	2	2014
MMIM FOC (FY13)	3	2013	3	2013
CLRF MS A	3	2011	3	2011
CLRF PDR	3	2012	3	2012
CLRF MS B	4	2012	4	2012
CLRF System Integration	4	2012	4	2012
CLRF System Demo	3	2013	4	2013
CLRF MS C	4	2013	4	2013
CLRF LRIP	4	2013	4	2013
CLRF IOT&E	1	2014	1	2014
CLRF FRPD	2	2014	2	2014
CLRF IOC	3	2014	3	2014

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 4002: <i>Family of Raid Reconnaissance</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
4002: <i>Family of Raid Reconnaissance</i>	3.288	0.801	0.668	-	0.668	0.530	0.540	0.552	0.562	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Project supports multiple airborne/parachuting and specialized reconnaissance related programs focusing on immediate capability enhancements to numerous insertion and personnel equipment shortfalls currently existing in reconnaissance units throughout the operating forces. This includes improving airborne capability equipment and items for direct action missions that use specialized raid equipment.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<p>Title: Family of Raid/Reconnaissance Equipment (FRRE)</p> <p align="right">Articles:</p> <p>FY 2011 Accomplishments: Developed new Tandem Offset Resupply Delivery System (TORDS) canopy and evaluated life cycle replacement for Military Tandem Tethered Bundle (MTTB) system.</p> <p>FY 2012 Plans: Continue and complete testing and development of the Tandem Offset Resupply Delivery System (TORDS) canopy and the Military Tandem Tethered Bundle (MTTB) System.</p> <p>FY 2013 Base Plans: FFRE efforts in FY13 will include technology upgrades and evaluation of emerging reliability challenges presented by fielded systems.</p>	1.100 0	0.412 0	0.418 0	-	0.418 0
<p>Title: Underwater Reconnaissance Capability (URC)</p> <p align="right">Articles:</p> <p>FY 2011 Accomplishments: Designed components and interconnections of Tactical Hydrographic Survey Equipment (THSE) system to meet USMC performance requirements for underwater mapping and navigation.</p> <p>FY 2012 Plans: Continue THSE system integration and testing.</p> <p>FY 2013 Base Plans:</p>	2.188 0	0.389 0	0.250 0	-	0.250 0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 4002: <i>Family of Raid Reconnaissance</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Complete THSE testing and documentation.					
Accomplishments/Planned Programs Subtotals	3.288	0.801	0.668	-	0.668

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

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PMC/0206211M: 6518 AMPHIB SPT EQUIP	11.657	5.533	13.089	0.000	13.089	7.256	7.167	5.263	5.357	0.000	55.322

D. Acquisition Strategy

(U) Family of Raid and Reconnaissance Equipment (FRRE) acquisition strategy is to fund engineering changes and product upgrade testing and development for various Reconnaissance Special Purpose Equipment for aerial delivery, parachuting, and close quarter combat, to include the Parachutist's High Altitude Oxygen System (PHAOS); Automatic Activation Device (AAD); Tandem Offset Resupply Delivery System (TORDS)/Military Tandem Tethered Bundle (MTTB) System; and the Marine Individual Assault Kit (MIAK).

(U) Underwater Reconnaissance Capability (URC) acquisition strategy for the Tactical Hydrographic Survey Equipment (THSE) consists of technology integration and developmental testing, with production of two prototypes, four engineering demonstration models, and technical data. The technical data will be used to develop a solicitation for production of THSE on a competitive contract.

E. Performance Metrics

Milestone reviews.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 9C85: <i>Marine Personnel Carrier (MPC)</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
9C85: <i>Marine Personnel Carrier (MPC)</i>	6.621	19.910	39.729	-	39.729	92.116	80.756	91.643	62.812	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Marine Personnel Carrier (MPC) is part of a portfolio of capabilities that provide closure to real world operational gaps and shortfalls in the ability of the Marine Air Ground Task Force to conduct ground based maneuver tasks. The MPC, as the medium capability category platform, provides a bridge in capability between the Amphibious Combat Vehicle and Joint Light Tactical Vehicle and a balance between the performance, protection and payload attributes. The MPC family of vehicles includes the baseline armored personnel carrier and two supporting mission role variants: a command and control variant, and a recovery and maintenance variant.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<p>Title: Pre-MDAP</p> <p align="right">Articles:</p> <p>FY 2011 Accomplishments: MPC - Performed studies and analyses for technology demonstrator weight and trade space analysis; Turret Trade study; weight and blast study; and survivability and force protection.</p> <p>FY 2012 Plans: MPC - Prepare for Material Development Decision. Acquire Remote Weapon Station (RWS) and prepare for swim analysis and conduct survivability demonstration. Perform studies and analyses that include mobility analysis and swim; diagnostics integrations; lethality analysis and marinization of RWS. Development of digital backbone and architecture.</p> <p>FY 2013 Base Plans: MPC - Perform and support offeror swim and blast analyses. Continue development of digital backbone and architecture. Complete RWS demonstration and GFE selection and packaging. Continue support of MPC technology demonstrator.</p>	4.621 0	17.719 0	24.805 0	-	24.805 0
<p>Title: Test and Evaluation</p> <p align="right">Articles:</p> <p>Description: Perform developmental testing, operational testing, and live fire testing for the MPC personnel, command, and recovery variants.</p>	-	-	2.463 0	-	2.463 0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 9C85: <i>Marine Personnel Carrier (MPC)</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<p><i>FY 2013 Base Plans:</i> Perform developmental test and evaluations to include hull form/NRL Armor demonstration and testing, and Human Factors Evaluation and Survivability testing. Initiate contract action for direct fire armor demonstration.</p> <p><i>Title:</i> Contract Advisory and Assistance Services</p> <p style="text-align: right;"><i>Articles:</i></p> <p><i>Description:</i> Contractor Support</p> <p><i>FY 2011 Accomplishments:</i> Provided contractor technical, engineering and management support for initial program planning, program documentation development, analysis and execution. Continued development of MPC mission requirements, and survivability analysis.</p> <p><i>FY 2012 Plans:</i> Support program requirements generation and survivability analysis and support.</p> <p><i>FY 2013 Base Plans:</i> Provide contractor technical, engineering and management support for program planning, program documentation, analysis and execution. Support government laboratory vehicle technology development and evaluation.</p>	0.746 0	0.295 0	5.529 0	-	5.529 0
<p><i>Title:</i> In-house Technical Support</p> <p style="text-align: right;"><i>Articles:</i></p> <p><i>Description:</i> In-house Support</p> <p><i>FY 2011 Accomplishments:</i> Provided in-house technical engineering for program planning, analysis and execution. Initiated software design, development, and analysis efforts for digital backbone conceptual performance specifications and architecture.</p> <p><i>FY 2012 Plans:</i> Continue in-house technical engineering and integrated logistics support for program planning, analysis and execution. Continue in-house digital architecture technology and software design, development, and analysis efforts. Perform travel in support of the MPC program.</p> <p><i>FY 2013 Base Plans:</i></p>	1.254 0	1.896 0	6.932 0	-	6.932 0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 9C85: <i>Marine Personnel Carrier (MPC)</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Continue in-house technical engineering and integrated logistics support for program planning, analysis and execution. Continue in-house digital architecture software design, development, and analysis efforts. Continue technology development and evaluations. Perform travel in support of the MPC program.					
Accomplishments/Planned Programs Subtotals	6.621	19.910	39.729	-	39.729

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

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013 Base</u>	<u>FY 2013 OCO</u>	<u>FY 2013 Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• PMC/203700: <i>Marine Personnel Carrier (MPC)</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	7.422	85.269	Continuing	Continuing

D. Acquisition Strategy
 The Marine Personnel Carrier (MPC) program will utilize Full and Open competition for EMD. The MPC is a family of vehicles consisting of a personnel carrier, a command and control platform and a maintenance and recovery vehicle. A source selection will be held to select up to two contractors. Each of these contractors will provide three prototype personnel carrier vehicles that will be subjected to Government evaluation. The results of this evaluation will be used to downselect to one prime provider of MPC and support a Milestone Decision. The results of the EMD efforts will be used to support a Milestone C Decision as well as determine the Low Rate Initial Production manufacturer.

E. Performance Metrics
 N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 9C85: <i>Marine Personnel Carrier (MPC)</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 Design & Development	MIPR	TBD:TBD	6.915	17.719	May 2012	24.805	Nov 2012	-		24.805	281.445	330.884	
Subtotal			6.915	17.719		24.805		-		24.805	281.445	330.884	

Remarks
Modeling and Simulation of ballistics and mobility. Competitive Awards and other Government Agencies not yet determined.

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	TBD	Not Specified:Not Specified	-	-		-		-		-	5.223	5.223	
Training Devices/Simulators	TBD	Not Specified:Not Specified	-	-		-		-		-	25.891	25.891	
Technical Data & Pubs Development	TBD	Not Specified:Not Specified	-	-		-		-		-	6.000	6.000	
Program Management	MIPR	TACOM:Warren, MI	-	-		-		-		-	0.000	0.000	
Subtotal			-	-		-		-		-	37.114	37.114	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	Various	NRL:Not Specified	-	-		2.463	Nov 2012	-		2.463	88.596	91.059	
Subtotal			-	-		2.463		-		2.463	88.596	91.059	

Remarks
Evaluation of Technology Demonstrator Test Bed Vehicle. Government Agencies not yet determined.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 9C85: <i>Marine Personnel Carrier (MPC)</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	Various:TBD	0.769	-		4.377	Dec 2012	-		4.377	40.812	45.958	
Studies and Analyses	C/FFP	Various:TBD	-	0.229	May 2012	0.228	Nov 2012	-		0.228	11.702	12.159	
In-house Technical Support	WR	Various:TBD	1.755	0.896	May 2012	4.933	Dec 2012	-		4.933	6.001	13.585	
Travel	Various	Various:TBD	0.150	1.000	Oct 2011	2.000	Oct 2012	-		2.000	7.500	10.650	
Program Management Support	C/BA	Various:TBD	-	-		-		-		-	0.000	0.000	
Technical Eng. Services	C/FFP	Various:TBD	0.120	0.066	May 2012	0.923	Nov 2012	-		0.923	12.685	13.794	
Subtotal			2.794	2.191		12.461		-		12.461	78.700	96.146	

Remarks
A Systems Integration Lab stood up in FY11 and continues in FY12. Competitive Awards and other Government Agencies not yet determined.

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		9.709	19.910		39.729		-	39.729	485.855	555.203	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 9C85: <i>Marine Personnel Carrier (MPC)</i>

Marine Personnel Carrier (MPC)	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017							
	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				
										MDD ▲				AoA ▲	CDD ▲			MS B ▲	CONTRACT ◆												COMP TEST	

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206623M: <i>MC Ground Cmbt Spt Arms Sys</i>	PROJECT 9C85: <i>Marine Personnel Carrier (MPC)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Marine Personnel Carrier (MPC)</i>				
MATERIAL DESIGN DECISION	1	2013	1	2013
CAPABILITIES DEVELOPMENT DOCUMENT	2	2014	2	2014
ANALYSIS OF ALTERNATIVES	1	2014	1	2014
MILESTONE B	1	2015	1	2015
PROTOTYPE CONTRACT A&B	2	2015	2	2015
COMPETITIVE TEST (DRIVE-OFF)	3	2017	4	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	52.480	27.072	58.393	6.762	65.155	50.312	40.492	27.931	26.773	Continuing	Continuing
0201: <i>Logistical Veh Sys Replacement (LVSR)</i>	1.242	0.100	0.560	-	0.560	2.397	2.182	1.740	1.731	Continuing	Continuing
2316: <i>Combat Service Support Eng Equip</i>	44.591	9.210	26.882	6.762	33.644	24.099	22.263	12.101	5.888	Continuing	Continuing
2509: <i>Motor Transport Mod</i>	4.509	14.928	12.438	-	12.438	9.254	2.196	1.498	1.082	Continuing	Continuing
2510: <i>MAGTF CSSE & SE</i>	-	-	13.974	-	13.974	9.066	7.455	6.550	6.156	Continuing	Continuing
2929: <i>Testing Measuring Diag Equip & SE</i>	1.375	1.479	2.043	-	2.043	2.076	2.099	2.119	2.145	Continuing	Continuing
9C90: <i>MTRV Mod</i>	0.763	1.355	2.496	-	2.496	3.420	4.297	3.923	9.771	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element (PE) provides funding for Marine Air-Ground Task Force requirements for Combat Service Support equipment improvement. It will enhance combat breaching capabilities of the ground combat elements, logistics, maintenance and transportation. The PE also provides improvements in all areas of Combat Service Support Equipment Vehicles by determining the replacement for the heavy, medium and light fleet vehicles. Alternative Power Sources for Communications Equipment (APSCE) is a suite of devices that provide the commander with the capability to use existing power to operate his communication equipment, computers and peripheral equipment instead of using batteries or fossil fuel generators. The Marine Corps Family of Automatic Test Systems (ATS), formerly TETS, provides automatic testing capability for use by technicians both in garrison and forward edge of the battlefield. This project includes improvements in all areas of the M1A1 main battle tank. The M1A1 tank provides armor protected firepower to the USMC ground combat element. Its advanced thermal sights provide superior target acquisition and target identification. High Performance Capabilities for Military Vehicles Project: This project is dedicated to applying the best practices of the motor sports industry to military vehicles including engineering expertise, equipment and technology. Marine Personnel Carrier Support System: Product Data Management and Technical Information Architecture Application development and integration includes requirements analysis, detailed system design, analysis of alternatives, implementation, and integration of a risk management tool.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE
1319: <i>Research, Development, Test & Evaluation, Navy</i>	PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>
BA 7: <i>Operational Systems Development</i>	

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	19.466	45.172	73.666	-	73.666
Current President's Budget	52.480	27.072	58.393	6.762	65.155
Total Adjustments	33.014	-18.100	-15.273	6.762	-8.511
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-18.100			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	33.755	-			
• SBIR/STTR Transfer	-0.640	-			
• Program Adjustments	-	-	-15.237	6.762	-8.475
• Rate/Misc Adjustments	-	-	-0.036	-	-0.036
• Congressional General Reductions Adjustments	-0.101	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 0201: <i>Logistical Veh Sys Replacement (LVSR)</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
0201: <i>Logistical Veh Sys Replacement (LVSR)</i>	1.242	0.100	0.560	-	0.560	2.397	2.182	1.740	1.731	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Logistics Vehicle System Replacement (LVSR) program is the replacement for the Logistics Vehicle System (LVS) fleet. The LVSR Modification line funds numerous and very important modifications and initiatives that are required to address operational priorities, engineering change proposals, safety concerns, support equipment inefficiencies, tool malfunctions, product quality deficiencies, beneficial suggestions and other issues that affect vehicle reliability, availability, maintainability and readiness. A proactive and focused approach ensures proper vehicle sustainment and life cycle management and it allows the flexibility to develop and implement improvements as needed to respond to the evolving needs of the Marine Corps.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<p>Title: LVSR: Engineering Change Proposal (ECP)</p> <p align="right">Articles:</p> <p>FY 2012 Plans: Funding will support Engineering Change Proposal (ECP) development and testing for all variants (cargo, tractor and wrecker) of the Logistics Vehicle System Replacement (LVSR). Continual changes in threat environment requires an on-going and proactive approach to address these changing threats.</p> <p>FY 2013 Base Plans: Funding will support Engineering Change Proposal (ECP) development and testing for all variants (cargo, tractor and wrecker) of the Logistics Vehicle System Replacement (LVSR). Continual changes in threat environment requires an on-going and proactive approach to address these changing threats.</p>	-	0.050 0	0.280 0	-	0.280 0
<p>Title: LVSR: Operational Test and Evaluation</p> <p align="right">Articles:</p> <p>FY 2011 Accomplishments: Funding supported the completion of Initial Operational Test and Evaluation (IOT&E) for the Logistics Vehicle System Replacement (LVSR) Tractor and Wrecker variants.</p>	0.808 0	-	-	-	-
<p>Title: LVSR: Safety</p> <p align="right">Articles:</p>	0.434 0	0.050 0	0.280 0	-	0.280 0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 0201: <i>Logistical Veh Sys Replacement (LVSR)</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<p><i>FY 2011 Accomplishments:</i> Funding addressed safety and force protection concerns. Safety upgrades such as Blast Mitigation seats and floor mats will protect the occupants from Improvised Explosive Devices (IEDs) and incendiary threats. Rear camera development and testing provide additional visibility for enhanced operator situational awareness. These are important safety upgrades that improve the overall safety of the LVSR vehicle and its occupants.</p> <p><i>FY 2012 Plans:</i> Funding will support safety modification development and testing required to meet the diverse environments of current and future operations of Marine Air-Ground Task Force (MAGTF) Expeditionary Maneuver Warfare. Incorporating new safety upgrades will protect the warfighter and LVSR vehicle from possible catastrophic events as warranted by continual changes in threat environment.</p> <p><i>FY 2013 Base Plans:</i> Funding will support safety modification development and testing required to meet the diverse environments of current and future operations of MAGTF Expeditionary Maneuver Warfare. Incorporating new safety upgrades will protect the warfighter and LVSR vehicle from possible catastrophic events as warranted by continual changes in threat environment.</p>					
Accomplishments/Planned Programs Subtotals	1.242	0.100	0.560	-	0.560

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

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PMC/5093: <i>LVSR</i>	242.230	187.354	37.262	0.000	37.262	0.000	0.000	0.000	0.000	Continuing	Continuing
• PMC/5050: <i>Motor T Mods (LVSR)</i>	0.000	62.400	5.935	0.000	5.935	36.857	16.373	7.103	5.075	Continuing	Continuing

D. Acquisition Strategy

The Logistics Vehicle System Replacement (LVSR) program consists of two separate phases. During the Engineering and Manufacturing Development (EMD) phase, two contracts were awarded to procure prototypes for developmental testing. The EMD phase winner was awarded a production contract to produce Low Rate Initial Production (LRIP) vehicles for operational testing. The LVSR Tractor and Wrecker variants have been designed and built, and are being tested under the LVSR Cargo production contract.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 0201: <i>Logistical Veh Sys Replacement (LVSR)</i>

E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 0201: <i>Logistical Veh Sys Replacement (LVSR)</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
LVSR Variant Prototypes	Reqn	MCSC:Quantico, VA	13.793	-		-		-		-	0.000	13.793	
LVSR Source Selection	Reqn	MCSC:Quantico, VA	0.248	-		-		-		-	0.000	0.248	
FRC Prototypes	Reqn	DRS Systems, Inc.:St. Louis, MO	2.720	-		-		-		-	0.000	2.720	
FRC Prototypes	Reqn	TBD:Not Specified	0.637	-		-		-		-	0.000	0.637	
Subtotal			17.398	-		-		-		-	0.000	17.398	

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
LVSR Engineer & Tech Support	WR	NTSC:Orlando, FL	0.194	-		-		-		-	0.000	0.194	
LVSR Engineer Change Support	Reqn	MCSC:Quantico, VA	1.454	-		-		-		-	0.000	1.454	
LVSR Engineer Change Support	Reqn	Oshkosh Corp:Oshkosh, WI	0.687	0.037	Mar 2012	0.215	Mar 2013	-		0.215	2.271	3.210	
LVSR Safety Mod Development	Reqn	Oshkosh Corp:Oshkosh, WI	0.434	0.037	Mar 2012	0.215	Mar 2013	-		0.215	3.774	4.460	
Subtotal			2.769	0.074		0.430		-		0.430	6.045	9.318	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
LVSR Operational T&E	WR	MCOTE:Quantico, VA	4.552	-		-		-		-	0.000	4.552	
LVSR Operational T&E	Reqn	Oshkosh Corp:Oshkosh, WI	0.730	-		-		-		-	0.000	0.730	
LVSR Development Design & Test	Reqn	Oshkosh Corp:Oshkosh, WI	0.175	-		-		-		-	0.000	0.175	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 0201: <i>Logistical Veh Sys Replacement (LVSR)</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
LVSR Variant Test	MIPR	TACOM:Warren, MI	0.110	-		-		-		-	0.000	0.110	
LVSR Corrosion Test	WR	NSWC:Philadelphia, PA	0.217	-		-		-		-	0.000	0.217	
LVSR Development Test	MIPR	Aberdeen Test Center:Aberdeen, MD	3.445	0.026	May 2012	0.130	May 2013	-		0.130	0.909	4.510	
LVSR Development Test	Reqn	Oshkosh Corp:Oshkosh, WI	1.422	-		-		-		-	1.127	2.549	
LVSR Development and Test	WR	NSWC:Indian Head, MD	0.024	-		-		-		-	0.000	0.024	
LVSR Live Fire	Reqn	SURVICE:Not Specified	0.410	-		-		-		-	0.000	0.410	
FRC Modeling and Simulation	Reqn	NSWC:Carderock, MD	0.735	-		-		-		-	0.000	0.735	
FRC Developmental T&E	Reqn	NATC:Carson City, NV	0.505	-		-		-		-	0.000	0.505	
Subtotal			12.325	0.026		0.130		-		0.130	2.036	14.517	

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
LVSR Contractor Support	Reqn	TBD:Not Specified	2.149	-		-		-		-	0.000	2.149	
LVSR Program Management Support	WR	MCSC:Quantico, VA	0.698	-		-		-		-	0.000	0.698	
FRC Contractor Support	Reqn	Sverdrup:Dumfries, VA	0.050	-		-		-		-	0.000	0.050	
FRC Program Management Support	WR	MCSC:Quantico, VA	0.050	-		-		-		-	0.000	0.050	
Subtotal			2.947	-		-		-		-	0.000	2.947	

	Total Prior Years Cost	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		35.439	0.100	0.560	-	0.560	8.081	44.180

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy

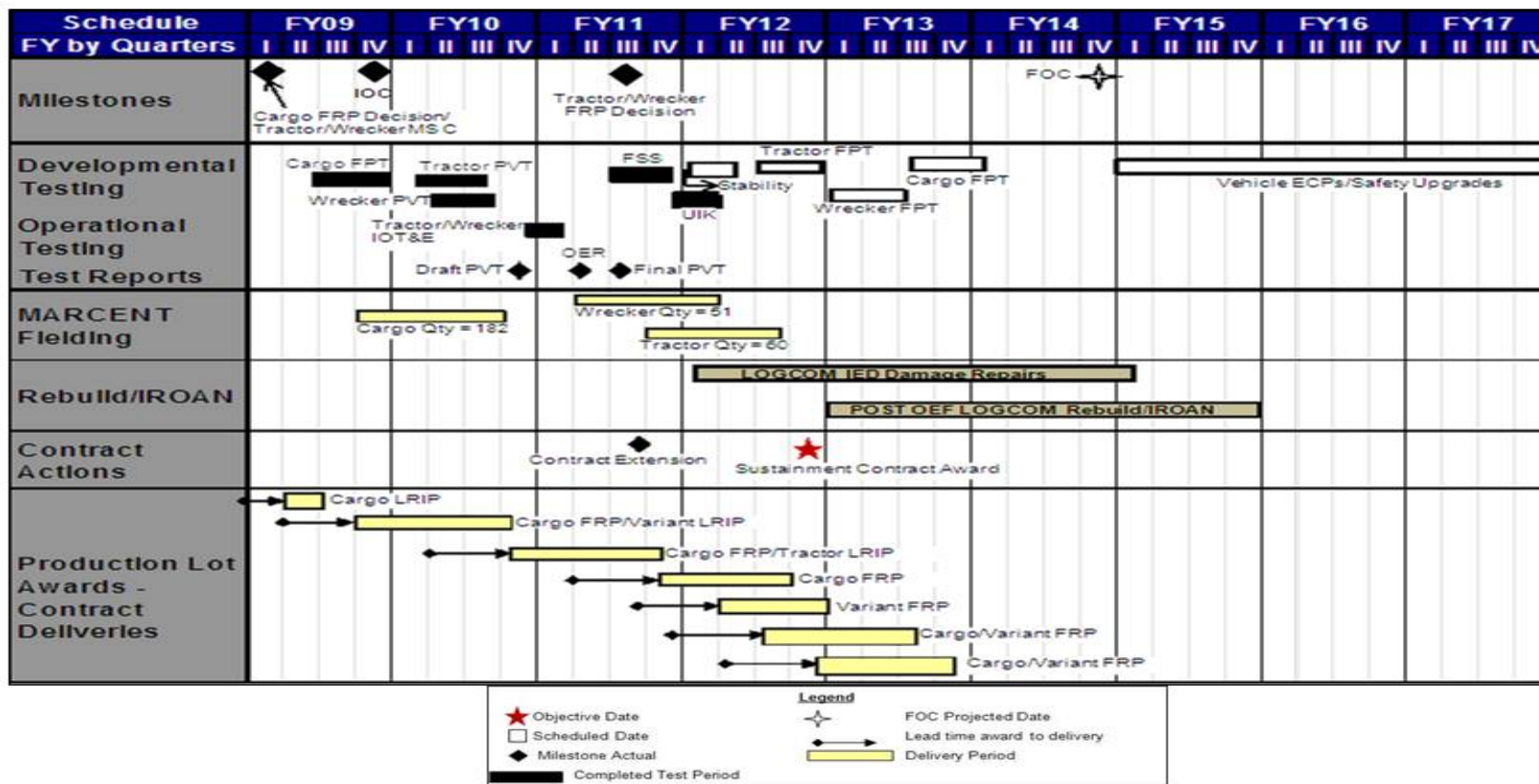
DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0206624M: Marine Corps Cmbt Services Supt

PROJECT
 0201: Logistical Veh Sys Replacement (LVSR)

LVSR Schedule



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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>				PROJECT 2316: <i>Combat Service Support Eng Equip</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2316: <i>Combat Service Support Eng Equip</i>	44.591	9.210	26.882	6.762	33.644	24.099	22.263	12.101	5.888	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The M1A1 Mod Kit effort includes improvements in all areas of the M1A1 main battle tank and the Armored Vehicle Launched Bridge (AVLB). The M1A1 tank provides armor protected firepower to the USMC ground combat element. Efforts under the mod line pertaining to the M1A1 include improvements in lethality systems to increase armament accuracy, increase the crew's situational awareness through sensor enhancements and intra-vehicular data sharing, providing for off-board targeting improvement, and environmental testing of components. The AVLB provides the Marine Corps only armor-protected assault gap crossing capability. Continued funding is required to address obsolescence, address operational deficiencies to adapt the tank and AVLB to a changing operational environment and support user-defined product improvements. These improvements directly address Marine Corps Lessons Learned, after action reports, and will ensure maximum survivability, sustainability, and readiness.

Route Reconnaissance and Clearance (R2C). A spiral development project enhances the capabilities of the R2C systems, a family of systems fielded in support of Operation Iraqi Freedom (OIF) via the Urgent Needs Statement (UNS) process. This research and development effort will integrate future vehicles, robots, and associated equipment to provide standoff detection, marking, and neutralization of Explosive Hazards such as mines and Improvised Explosive Devices (IEDs). Enhancements for R2C will provide capabilities not found in the current inventory to defeat explosive hazards and will protect Marines and equipment while conducting route and area clearance operations. The integration of the next generation of armored security and support vehicles, Vehicle Mounted Mine Detectors (VMMDs), specialized robots, and a new suite of detection, marking, and neutralization systems will enable maneuver commanders to make timely and informed decisions in avoiding or neutralizing explosive hazards that impede their missions. Multiple detection and marking capabilities will detect a broader spectrum of explosive hazards and achieve higher overall effectiveness rates, while standoff and remote-controlled detection, marking, and neutralization capabilities will enhance force protection and system survivability. Operational speeds and rates will increase, which will better support the maneuver force operational tempo.

The Assault Breacher Vehicle (ABV) is a tracked combat engineer vehicle that provides deliberate and in-stride breaching capability of minefields and complex obstacles to the Ground Combat Element (GCE) of the Marine Air Ground Task Force (MAGTF). The ABV combines crew protection and vehicle survivability with the speed and mobility to keep pace with the maneuver force. The ABV is employed by the Combat Engineer Battalion (CEB) as part of a synchronized operation to rapidly breach obstacles and create lanes for the MAGTF. FY 2011 funding will be used to develop a Counter Improvised Explosive Device (CIED) capability, integrate an Insensitive Munition (IM) compliant line charge and integrate mine roller capability for the system. Standoff CIED capability from under armor will provide a significant increase in system flexibility and lethality while improving crew protection. An IM compliant line charge will permit safe loading of the charge while on the transport vessel well deck, enabling the ABV to begin performing its mission immediately upon touching the beach. Thus, the crew will not be forced to load the line charge on the shore, possibly under fire. Integration of a mine roller will increase the ABVs "proofing" (verifies no mines in the lane) capability, thus increasing mine clearing performance.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2316: <i>Combat Service Support Eng Equip</i>
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The Engineer Modification Kit line funds modifications and initiatives which are required to address operational priorities, engineering change proposals, safety concerns, support equipment inefficiencies, product quality deficiencies and other issues that affect vehicle reliability, availability and readiness. This proactive and focused approach ensures proper vehicle sustainment and life cycle management in response to evolving needs of the Marine Corps fleet. Operational needs to provide personnel survivability on engineer equipment is essential to current and future operations. Research and development funding develops and integrates new lighter, compact armor technology and supports ballistic testing for applications to existing and future acquisitions.

Corrosion Prevention and Control (CPAC): The useful life of Marine Corps assets will be extended through a comprehensive CPAC RDT&E program aimed at identifying and certifying new corrosion control products, materials, processes and procedures for legacy and new acquisition.

The Mine Resistant Ambush Protected (MRAP) Family of Vehicles (FoV) provides tactical mobility for Warfighters with multi-mission vehicles designed to support urgent operational needs, and protect personnel from the effects of improvised explosive devices (IEDs), underbody mines, and small arms fire threats. Five vehicle categories (CATs) are being tested, procured, fielded and sustained: Category I - Urban combat operations, ambulance. Category II - Multi-mission ops-convoy lead, troop transport, ambulance, utility vehicle. Category III - Mine/IED clearance ops, explosive ordnance disposal. MRAP All Terrain Vehicle (M-ATV)- Combat operations (ops) in rural, mountainous, urban terrain. Other Protected Vehicles- Specialty mission or unique configuration. Provides the same threshold ballistic, mine and IED protection as other MRAP vehicles. Includes the MRAP Recovery Vehicle (MRV) variant.

The Low Metallic Signature Mine Detector (LMSMD) will provide operational commanders the ability to maintain dismounted mobility by detecting landmines and explosive devices, and increase security for convoys by allowing engineers to sweep suspected IED sites with minimal exposure time. Integrate into existing C2 systems in order to maximize freedom of movement and situational awareness and reduce C-IED reaction times.

The Ground Combat Element, Engineer Squad Robot(ESR) with a lightweight back packable robot will support the maneuver commander with organic route and obstacle reconnaissance, urban scouting and breaching capabilities, explosive detection, interrogation and reduction in support of dismounted tactical maneuver across the spectrum of conflict. The Robot will be part of the T/E of Combat Engineer Squads in both active and reserve Combat Engineer Battalions (CEB), Marine Wing support Squadrons (MWSS) and additional systems are allocated for supporting establishments.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Engineering Mod Kits	-	0.495	0.498	-	0.498
Articles:		0	0		0
FY 2012 Plans:					
Solve highest priority issues determined during the testing and integration of modifications for the Engineer Family of Systems.					
FY 2013 Base Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy			DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2316: <i>Combat Service Support Eng Equip</i>				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)						
		FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Solve highest priority issues determined during the testing and integration of modifications for the Engineer Family of Systems						
Title: M1A1 Survivability/Lethality Program		1.906	-	-	-	-
		Articles: 0				
FY 2011 Accomplishments: The M1A1 Survivability/Lethality Program effort includes critical product improvements such as, but not limited to, the application of additional armor, integration of counter-sniper fire technology, and improvement to existing secondary armanment systems. These improvements directly address Marine Corps Lessons Learned, after action reports, and will ensure maximum survivability.						
Title: M1A1 Modifications		1.406	1.794	1.326	-	1.326
		Articles: 0	0	0		0
FY 2011 Accomplishments: This project evaluated enhancements to situational awareness needs such as attack detection, driver visibility, and fire control improvements. Modifications included safety, reliability, corrosion control, and technology upgrades to meet Marine Corps requirements.						
FY 2012 Plans: This project executes testing and evaluation of lethality enhancements - particularly alternative high explosive main gun rounds- as well as engineering support for upgrades to support situational awareness and mitigate operational and obsolescence-generated deficiencies with the tank.						
FY 2013 Base Plans: This project in conjunction with the Army, qualify tank turret systems as replacements to obsolescing units; address fire control system deficiencies; continue evaluation of attack-detection systems; develop plans for long-term modernization for the M1A1 in the Marine Corps inventory.						
Title: Route Reconnaissance and Clearance (R2C):		2.809	4.544	3.892	-	3.892
		Articles: 0	0	0		0
FY 2011 Accomplishments:						

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2316: <i>Combat Service Support Eng Equip</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Integrated Automated Route Reconnaissance kits, vehicle optical sensor systems, and interrogation arm on CAT I and CAT II MRAPs. Provided Field User Evaluation for increment II which includes the shipment of CAT I, CAT II, and CAT III MRAPs, front end equipment, billeting, range costs, and data recorders. FY 2012 Plans: Funding will continue integration of Automated Route Reconnaissance kits, vehicle optical sensor systems, and interrogation arm on CAT I and CAT II MRAPs. Provides Field User Evaluation for increment II which includes the shipment of CAT I, CAT II, and CAT III MRAPs, front end equipment, billeting, range costs, and data recorders. FY 2013 Base Plans: Continue development, integration and testing of events began in FY12. We will also begin funding of the preliminary efforts planned for increment III of the Route Recon. and clearance effort.					
Title: Assault Breacher Vehicle (ABV) <div style="text-align: right;">Articles:</div>	1.484 0	-	-	-	-
FY 2011 Accomplishments: Included Three (3) identified system improvements/upgrades: Improved Counter Improvised Explosive Device (CIED) capability, integration of Insensitive Munitions (IM) compliant line charge, and integrated a vehicle width mine roller.					
Title: MRAP Vehicles <div style="text-align: right;">Articles:</div>	34.717 0	-	- 0	6.762 0	6.762 0
FY 2011 Accomplishments: MATV- Underbody Improvement Kits (UIK); LRIP 22- 100 USMC M-ATV's; LRIP 20- Wreckers- 15 USMC; Cougar ISS/Block Upgrades. Continue Ballistic testing on vehicle variants as multiple ECP's are applied. Perform Testing and Evaluation of capabilities requested in UUNS/JUONS and other planned survivability ECP's.					
FY 2013 Base Plans: N/A					
FY 2013 OCO Plans: Continue Ballistic testing on vehicle variants as multiple Engineering Change Proposals (ECPs) are applied.					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy				DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>		PROJECT 2316: <i>Combat Service Support Eng Equip</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					
Perform Testing and Evaluation of capabilities requested in UUNS/JUONS and other planned survivability ECP's.					
Title: Engineer Squad Robot					
Articles:					
	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
	-	-	5.822 0	-	5.822 0
FY 2013 Base Plans: Baseline activities will focus on development and integration of current technologies to meet the KPP requirements of the ESR CPD : Reconnaissance Effectiveness, Availability, Reliability, Size, Speed/Mobility, Range, and Endurance					
Title: Corrosion Prevention and Control (CPAC)					
Articles:					
	2.269 0	2.377 0	1.959 0	-	1.959 0
FY 2011 Accomplishments: The CPAC continues to use Government labs for the Corrosion Products and Materials Processes (CPMP), expansion of Chemical Agent Resistant Coating (CARC) specification requirements to include the usage of high-build coatings, implementation of the use of aerosol CARC touch-up coatings, corrosion requirements for conformal coatings to reduce corrosion on electronics systems, and any other emerging research issues.					
FY 2012 Plans: The focus of the program's efforts will continue to utilize , Naval Surface NSWC and NRL to accomplish all developments.					
FY 2013 Base Plans: Program successes will continue testing and reviews across the inventory to explore options and opportunities to help manage the corrosion issues faced by our platforms.					
Title: Low Metallic Signature MD					
Articles:					
	-	-	13.385 0	-	13.385 0
Description: This system will allow operational commanders to maintain dismounted mobility by detecting landmines and explosive devices, and increase security for convoys by allowing engineers to sweep suspected IED sites with minimal exposure time. Integration into existing C2 systems will maximize freedom of movement and situational awareness and reduce C-IED reaction times.					
FY 2013 Base Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2316: <i>Combat Service Support Eng Equip</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Develop, integrate, test, evaluate and procure a new hand-held mine detector system to replace the current AN/PSS-14 Mine Detector Program of Record.					
Accomplishments/Planned Programs Subtotals	44.591	9.210	26.882	6.762	33.644

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

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PMC/6520-1: <i>EOD Systems- R2C</i>	64.364	78.693	45.118	0.000	45.118	40.739	46.103	54.502	58.341	Continuing	Continuing
• PMC/6520-2: <i>EOD Systems- ABV</i>	32.085	8.100	20.595	0.000	20.595	0.000	0.000	0.000	0.000	Continuing	Continuing
• PMC/6670: <i>CPAC</i>	0.485	0.485	0.484	0.000	0.484	0.579	0.576	0.586	0.596	Continuing	Continuing
• PMC/2061-1: <i>Modification Kits - M1A1 Mod Kits</i>	25.034	37.599	34.989	0.000	34.989	42.425	30.496	20.860	21.225	Continuing	Continuing
• PMC/2061-2: <i>Modification Kits - Armored Vehicle Launched Bridge</i>	0.000	12.169	8.545	0.000	8.545	5.200	0.000	0.000	0.000	Continuing	Continuing
• PMC/6520-5: <i>EOD Systems- MRAP</i>	180.000	0.000	39.150	13.481	52.631	0.000	2.996	3.047	3.099	Continuing	Continuing

D. Acquisition Strategy

(U) The M1A1 Survivability/Lethality: Program will utilize Army initiatives and programs (such as Belly Armor and Universal Headrest) as much as possible. However, it will also require modifications to some Army efforts (such as the Mine Resistant Seat and Rear View Sensor System). The USMC will research, develop, and evaluate programs to improve the survivability and lethality of the USMC tank. These efforts include the Improved Loader's Weapon Station, Laser Rangefinder/Designator, Laser Warning System, Tank Commander's Forward Unity Periscope upgrade, and Counter Sniper Protection Systems. When possible, these programs will use existing Army contracts and internal contracting activities when required.

(U) The M1A1 Modification: Program leverages Army developmental programs to create a system that more readily meets Marine Corps requirements. Modification includes safety, reliability, corrosion control, and technology up-grades to meet Marine Corps requirements. M1A1 Mods will exercise options on existing contracts of varying types to conduct research and analysis associated with the development of modifications and corrosion prevention to the M1A1 Tank and supporting platforms.

(U) Route Reconnaissance and Clearance (R2C): Starting in FY10, procure a fleet of standardized Route Reconnaissance and Clearance systems based upon the successful route clearance teams operating in Iraq; use Capabilities Production Documents for current systems and leverage contracts already in place. Concurrently support a research and development effort to integrate future vehicles with enhanced mobility and survivability, a suite of improved detection and marking capabilities, and robots with greater detection, marking, and neutralization capabilities.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2316: <i>Combat Service Support Eng Equip</i>

(U) Engineering Mod Kits: This is a roll-up line of various engineering efforts, modifications and other related items less than \$5 Million each. This program provides for significant improvements to a various pieces of engineering equipment by enhancing their capabilities and improving readiness.

(U) Corrosion Prevention and Control (CPAC) Program The Program will execute the RDT&E Program through direct allocation of funding to the Naval Surface Warfare Center - Carderock Division Corrosion Research and Engineering Branch for comprehensive program aimed at identifying and certifying new corrosion control products, materials, processes and procedures for legacy and new acquisition.

(U) The Low Metallic Signature Mine Detector will develop, integrate, test, evaluate and procure a new hand-held mine detector system to replace the current AN/PSS-14 Mine Detector Program of Record. Ground Penetrating Radar (GPR) technology has improved significantly since the development of the AN/PSS-14, allowing greater efficiency, target discrimination, miniaturization, longer operating time and command & control. The Low Metallic Signature Mine Detector will be effective against low and non metallic devices, capable of identifying man-made objects, weigh less than 7 lbs, be capable of start-up and calibration in less than 60 seconds, and be integrated with existing C2 systems.
Estimated Production Cost is \$24k per system.

(U) The Engineer Squad Robot (ESR) will focus on development and integration of current technologies to meet the KPP requirements of the ESR CPD with reconnaissance effectiveness, availability, reliability, size, speed/mobility, range, and endurance.

E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2316: <i>Combat Service Support Eng Equip</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 Squad Robot	TBD	TBD:TBD	-	-		5.822	Nov 2012	-		5.822	Continuing	Continuing	Continuing
Low Metallic Signature MD	TBD	TBD:TBD	-	-		13.385	Nov 2012	-		13.385	Continuing	Continuing	Continuing
MRAP Engineering	TBD	TBD:TBD	-	-				3.404	Nov 2012		Continuing	Continuing	Continuing
M1A1 MODIFICATIONS	MIPR	TACOM:TACOM	2.303	0.586	Jan 2012	0.086	Jan 2013	-		0.086	Continuing	Continuing	Continuing
M1A1 MODIFICATIONS	MIPR	ABERDEEN PRV:APG, MD	1.813	0.400	Dec 2011	0.397	Dec 2012	-		0.397	Continuing	Continuing	Continuing
M1A1 MODIFICATIONS	MIPR	FORT BELVOIR:FORT BELVOIR, VA	0.200	0.158	Jan 2012	0.201	Jan 2013	-		0.201	Continuing	Continuing	Continuing
M1A1 MODIFICATIONS	MIPR	BENET LABS:WATERVELIET, NY	0.250	0.250	Jan 2012	0.247	Jan 2013	-		0.247	Continuing	Continuing	Continuing
M1A1 MODIFICATIONS	MIPR	PICATINNY ARSENAL:PICATINNY, NJ	0.414	0.400	Jan 2012	0.395	Jan 2013	-		0.395	Continuing	Continuing	Continuing
JAB Development	C/FFP	MCSC:Quantico, VA	2.225	-		-		-		-	Continuing	Continuing	Continuing
ABV CIED Dev and Integration	WR	NSWC:Panama City, FL	2.445	-		-		-		-	Continuing	Continuing	Continuing
R2C Sys Articles & Integration	WR	NSWC:Panama City, FL	4.660	1.439	Dec 2011	3.892	Nov 2012	-		3.892	Continuing	Continuing	Continuing
Subtotal			14.310	3.233		24.425		3.404		27.829			

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 Support-R2C	C/FP	EG&G:Stafford, VA	0.987	0.950	Nov 2011	-		-		-	Continuing	Continuing	Continuing
Subtotal			0.987	0.950		-		-		-			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2316: <i>Combat Service Support Eng Equip</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
MRAP Ballistic Survivability	MIPR	Aberdeen Proving Ground:Aberdeen, MD	-	-		-		0.460	Nov 2012	0.460	Continuing	Continuing	Continuing
MRAP FoV Ballistic Evaluations	MIPR	AEC:Aberdeen, MD	-	-		-		0.216	Nov 2012	0.216	0.000	0.216	
MRAP LFT&E MRAP	MIPR	Army Reseach Lab:Aberdeen, MD	-	-		-		0.226	Nov 2012	0.226	0.000	0.226	
MRAP Buffalo Testing Requirements	MIPR	Aberdeen Test Center:Aberdeen, MD	-	-		-		1.110	Nov 2012	1.110	0.000	1.110	
MRAP Ballistic SSP	MIPR	ATC:Aberdeen, MD	-	-		-		0.125	Nov 2012	0.125	0.000	0.125	
MRAP Operational & LFT&E	C/CR	Not Specified:Not Specified	-	-		-		0.956	Nov 2012	0.956	0.000	0.956	
MRAP Testing Support	Various	Various:Various	-	-		-		0.265	Nov 2012	0.265	0.000	0.265	
R2 Test Support	MIPR	Aberdeen Proving Ground:Aberdeen, MD	1.914	2.155	Nov 2011	-		-		-	Continuing	Continuing	Continuing
CPAC	WR	Naval Surface Warfare Center - Carderock:W. Bethesda, MD	3.441	1.869	Dec 2011	1.959	Nov 2012	-		1.959	Continuing	Continuing	Continuing
CPAC	WR	NRL:Key West, FL	1.000	0.508	Dec 2011	-		-		-	Continuing	Continuing	Continuing
Engineering Mod Kits	MIPR	Aberdeen Proving Grounds:Aberdeen, MD	-	0.495	Dec 2011	0.498	Nov 2012	-		0.498	Continuing	Continuing	Continuing
Subtotal			6.355	5.027		2.457		3.358		5.815			
Project Cost Totals			21.652	9.210		26.882		6.762		33.644			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2316: <i>Combat Service Support Eng Equip</i>
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Proj 2316	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017							
	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				

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2316: <i>Combat Service Support Eng Equip</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2316				
R2C Increment I Production	1	2012	2	2012
R2C Increment II Integration	2	2012	4	2012
R2C Increment II Production	2	2013	4	2013
R2C Increment III Integration	2	2013	4	2013
R2C Increment III IOT&E	3	2015	4	2015
Increment III Production	2	2016	4	2016

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2509: <i>Motor Transport Mod</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2509: <i>Motor Transport Mod</i>	4.509	14.928	12.438	-	12.438	9.254	2.196	1.498	1.082	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Marine Corps Tactical Motor Transportation Modification Program manages procurement and life cycle sustainment for more than 40,000 principle end items divided among four fleets: Light Fleet, Medium Fleet, Heavy Fleet, and Special Fleet. A sustained effort is maintained in the Marine Corps for development and testing in support of fleet Service Life Extension Program (SLEP) initiatives, vehicle quality deficiency resolutions, safety initiatives, environmental/state transportation mandated vehicle changes, and system component refresh modifications efforts. Given transportation asset operational availability declines at a steady rate over time, SLEP, Fleet overhauls, and enhanced depot level modifications are essential in maintaining a viable transportation capability in the Marine Corps Operating Forces.

The HMMWV/ECV Modification Program will restore payload and performance to extend the service life and enhance the durability of those ECVs not replaced by JLTV out to 2030. This will be accomplished by exploring/evaluating various solutions based upon cost, weight, performance, and durability.

The Improved Recovery Vehicle (IRV) project includes improvements in all areas of the M88A2 Improved Recovery Vehicle. Continued funding is required to address obsolescence and support pre-planned product improvements. Additionally, funding will implement lessons learned and develop safety related Engineering Change Proposals (ECPs) to correct hazards noted during the standard day to day operation of the M88A2 Improved Recovery Vehicle.

P-19 Replacement will replace the aging A/S32P-19A Crash Fire Rescue fleet in support of expeditionary airfield operations and the supporting establishment. The vehicle will be outfitted with advanced fire suppression equipment and provide rescue and aircraft fire fighting capabilities to permanent and expeditionary airfields throughout the Marine Corps. The P-19 Replacement may also be employed to fight structure fires in support of base camps and as firefighting support to other elements of the MAGTF, such as ammunition supply points, Petroleum, Oil, and Lubricant (POL) distribution points, or hazardous material storage facilities.

MTRV trailer and Family of Tactical Trailers programs will explore options for "lightening the MAGTF" weight and cube attributes of our light and medium trailer fleet. Funds will explore technologies and other current and emerging options that can be employed to achieve optimum lift capability with constraints to the desired weight and cube. Transportation and expeditionary goals will be considered in the research and development phase for the trailer fleet.

Family of Materiel Handling Equipment will explore ways to armor or design survivability into the family of materiel handling family.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Improved Recovery Vehicle (IRV)	0.435	0.120	0.315	-	0.315
Articles:	0	0	0		0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy			DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2509: <i>Motor Transport Mod</i>			
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					
FY 2011 Accomplishments: This project initiated modernization efforts for M88-specific tools. Completed testing and finalized ECP for incorporation of the commander weapon station. Evaluated and tested potential quick recovery opportunities.					
FY 2012 Plans: This project continues joint participation with US Army on evaluation of prospective modifications, evaluating solutions to cold weather starting deficiencies and alternatives to wire cables used in recovery operations, evaluating improvements to the M88A2 drive train. Developmental efforts to modify the current fording kit to support operation with the new Automatic Fire Extinguishing System (AFES).					
FY 2013 Base Plans: This project develops long-term modernization plans for the M88A2 within the Marine Corps. Continue efforts to mitigate emergent operational deficiencies.					
Title: High Mobility Multi-Wheeled Vehicle ECV (HMMWV-ECV)					
Articles:					
	0.312	13.218	1.498	-	1.498
	0	0	0		0
FY 2011 Accomplishments: N/A					
FY 2012 Plans: To conduct trade studies, Modeling & Simulation, and preliminary kit designs.					
FY 2013 Base Plans: To finalize kit designs and to conduct developmental testing on vehicles equipped with pre-production kits.					
Title: FRC: Flatrack					
Articles:					
	3.157	-	-	-	-
	0				
Description: The Flatrack Refueling Capability (FRC) will consist of a 2,500 - 3,000 gal tank, an onboard pump, filter assembly, and required hoses and equipment. The FRC will be able to provide refueling support to Marine Corps forces in unimproved locations. The FRC is a LVSR-compatible system designed to provide over wing and underwing refueling a defueling for aircraft, and to provide refueling capability for the Marine Logistics MLG to meet its cross country requirements.					
FY 2011 Accomplishments:					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy				DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>		PROJECT 2509: <i>Motor Transport Mod</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					
	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Prototype testing began during 2nd quarter FY11.					
Title: P-19 Replacement					
Articles:					
	-	0.968	6.503	-	6.503
		0	0		0
Description: The Aircraft Rescue & Fire Fighting (ARFF) vehicle will be equipped with fire suppression compounds and extinguishing agents, handheld extinguishers, and specialized rescue tools used by firefighters for extinguishing aircraft or structural fires, providing protection for rescue personnel, cooling explosive ordnance, extricating wounded aircrew members, dispatching emergency response capabilities to crash and structural alarms, and supporting mutual aid agreements with local, state, and federal agencies.					
FY 2012 Plans: Source selection for the P-19 Replacement development effort is scheduled for first quarter FY12. Performing activity/location will be unknown until source selection is complete.					
FY 2013 Base Plans: Continue development of the P-19.					
Title: Motor Transport Modification (MTM): Test					
Articles:					
	0.605	0.622	0.632	-	0.632
	0	0	0		0
FY 2011 Accomplishments: Continue testing, integration, and evaluation of Transportation Systems modifications identified for potential application on our Motor Transportation assets.					
FY 2012 Plans: Continue the testing, integration, and evaluation of Transportation Systems modifications identified for potential application on our Motor Transportation assets.					
FY 2013 Base Plans: Continue testing, integration, and evaluation of Transportation Systems modifications identified for potential application on our Motor Transportation assets.					
Title: MTRV Trailers					
Articles:					
	-	-	2.497	-	2.497
			0		0
Description: The MTRV Trailer Program is a USMC initiative to replace the current M105 Cargo Trailer with a trailer capable of augmenting the MTRV's increased mobility without degrading its operational capabilities. This					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2509: <i>Motor Transport Mod</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
program will develop and field a cargo trailer which will have greater mobility characteristics while increasing the payload capability to 12,000 lbs.					
<i>FY 2013 Base Plans:</i> Assess a new version of water and cargo trailers to replace those trailers that were terminated due to weight issues.					
<i>Title:</i> Family of Tactical Trailers <i>Articles:</i> <i>Description:</i> Funding will provide for the procurement and sustainment of the Marine Corps Family of Tactical Trailers. Additionally, it will sustain the existing legacy tactical trailer fleet including the M101/M101A3 trailers designed for the High Mobility Multipurpose Wheeled Vehicle (HMMWV) and the M870A2E1 trailer designed for the Logistics Vehicle System (LVS)/Logistical Vehicle System Replacement (LVSr). <i>FY 2013 Base Plans:</i> Assess a new version of water and cargo trailers to replace those trailers that were terminated due to weight issues.	-	-	0.499 0	-	0.499 0
<i>Title:</i> Family of Material Handling Equipment <i>Articles:</i> <i>Description:</i> The family of materiel handling equipment will explore techniques and technology to help in survivability of the various platforms while also working to help sustain Reliability, and performance of the equipment. <i>FY 2013 Base Plans:</i> Funds will be used to assess survivability of Materiel Handling Equipment.	-	-	0.494 0	-	0.494 0
Accomplishments/Planned Programs Subtotals	4.509	14.928	12.438	-	12.438

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013 Base</u>	<u>FY 2013 OCO</u>	<u>FY 2013 Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• PMC/523000: <i>Motor T Mod</i>	2.843	1.804	2.803	0.000	2.803	2.885	2.966	3.018	3.197	Continuing	Continuing
• PMC/504500: <i>HMMWV</i>	0.000	0.000	8.052	0.000	8.052	8.111	8.160	8.184	8.203	Continuing	Continuing

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2509: <i>Motor Transport Mod</i>
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C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2011	FY 2012	FY 2013	FY 2013	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Cost To	
			Base	OCO	Total					Complete	Total Cost
• PMC/509700-1: <i>Family of Tactical Trailers</i>	29.293	3.647	7.866	0.000	7.866	9.362	9.675	9.786	9.994	Continuing	Continuing
• PMC/206100: <i>IRV</i>	17.313	4.164	3.651	0.000	3.651	3.427	3.227	3.281	3.355	Continuing	Continuing
• PMC/463000: <i>IRV</i>	0.064	0.181	0.155	0.000	0.155	0.156	0.159	0.162	0.165	Continuing	Continuing
• PMC/500600: <i>P-19 Replacement</i>	0.000	0.000	0.000	0.000	0.000	11.940	36.297	27.540	33.729	Continuing	Continuing
• PMC/509700-2: <i>Flatrack</i>	0.000	0.000	11.890	0.000	11.890	4.291	4.456	4.515	4.645	Continuing	Continuing
• PMC/654500: <i>ITV</i>	28.401	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	Continuing	Continuing
• PMC/ 509700: <i>MTVR Trailers</i>	17.176	43.027	36.046	0.000	36.046	11.840	7.701	1.000	1.000	Continuing	Continuing

D. Acquisition Strategy

Funding will focus on streamlined acquisitions of Commercial-Off-The-Shelf Non-Developmental Items (COTS/NDI) that can be identified, integrated, and tested in a short amount of time. Successful modifications and tests are intended for follow-on procurement and incorporation into existing system component upgrades, SLEPS, or rapid COTS/NDI fielding for the Fleet Marine Forces (FMF).

HMMWV Modification will take a three-phased approach. The first phase will include trade studies and preliminary design; the second phase will focus on final design and the building of component upgrade kits; the third phase will include Performance and RAM testing of production-representative kitted vehicles against the requirements in the 2004 HMMWV ORD. Expect a high degree of development and testing in FY13/14, to include testing of production-representative kits in FY14.

The Flatrack Refueling Capability (FRC) program original acquisition strategy consisted of a joint procurement contract with the US Army. FY07 RDTE funds were used to procure two prototypes developed by DSR Systems, Inc. After development and initial testing the Army decided not to procure the DSR system. The revised acquisition strategy will only include US Marine Corps requirements. Further analysis has resulted in a new acquisition strategy focused on contracting for commercially available items via a Small Business Set Aside procurement. These funds will procure one prototype for developmental testing and Field Users Evaluation (FUE).

The Medium Tactical Vehicle Replacement (MTVR) Trailer program's original acquisition strategy consisted of procuring three variants of trailers that would have greater mobility characteristics, while maximizing the commonality of parts, across the three trailer platform. FY05 RDTE funds were used to procure six prototypes trailers (two of each variants) developed by Choctaw Manufacturing Developing Contractors (CMDC). After successful completion of Pre-production Qualification Testing (PPQT), the program transitioned from the Engineering and Manufacturing Development (EMD) phase to the Production and Development phase, in which a series of tests were conducted that proved the production trailers met the MTVR Trailer performance specification and ensured the operational effectiveness and suitability of trailers.

Prior to requesting a fielding decision, the Marine Corps Senior Leadership halted the original MTVR Trailer program due to concerns the trailers were oversized and did not meet the CMC goal to lighten the MAGTF. By direction of Marine Corps Combat Development and Integration Division, the MTVR Trailer program has recently

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	2509: <i>Motor Transport Mod</i>

been restructured to re-design the cargo trailer and cease procurement of the Water and General Purpose trailers. The revised acquisition strategy will be to assist the Capabilities Development Directorate (CDD), Logistics Integration Division (LID) with the study to determine the Marine Corps' long term water and power distribution requirements. The RDT&E funds for the MTRV Trailer program will be used to build prototypes and conduct necessary tests to support the study results for water and power distribution trailers.

The Family of Tactical Trailer (FTT) acquisition strategy will use RDT&E funding to explore current and new technological options that can be used to achieve optimum lift within the desired weight and cube constraints in support of the "Lightening the MAGTF" initiative. Transportation and expeditionary goals will be considered in the research and development phase for the light and medium/heavy trailer fleet.

The Improved Recovery Vehicle (IRV) program also leverages Army developmental projects to create a system that more readily meets Marine Corps Heavy Recovery Vehicle requirements. Improvements include safety, reliability, and technology upgrades.

P-19 Replacement will supplant the aging A/S32P-19A fleet in support of expeditionary airfield operations and the supporting establishment. The vehicle will be outfitted with advanced fire suppression equipment and provide rescue and aircraft fire fighting capabilities to permanent and expeditionary airfields throughout the Marine Corps. The P-19 Replacement may also be employed to fight structure fires in support of base camps and as firefighting support to other elements of the MAGTF, such as ammunition supply points, Petroleum, Oil, and Lubricants (POL) distribution points, or hazardous material storage facilities.

E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2509: <i>Motor Transport Mod</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Family of Tactical Trailers	MIPR	TBD:TBD	-	-		0.499	Dec 2012	-		0.499	Continuing	Continuing	Continuing
MTVR Trailers	MIPR	TBD:TBD	-	-		2.497	Dec 2012	-		2.497	Continuing	Continuing	Continuing
IMPROVED RECOVERY VEH	MIPR	TACOM:WARREN, MI	0.966	0.120	Dec 2011	0.315	Sep 2013	-		0.315	Continuing	Continuing	Continuing
Motor Trans Mod	MIPR	TBD:TBD	2.751	0.622	Dec 2011	0.639	Dec 2012	-		0.639	Continuing	Continuing	Continuing
FRC	C/FFP	Heil CO:Athens, TN	4.600	-		-		-		-	0.000	4.600	
P-19 Replacement	MIPR	TBD:TBD	-	0.968	May 2012	6.496	Feb 2013	-		6.496	Continuing	Continuing	Continuing
Subtotal			8.317	1.710		10.446		-		10.446			

Remarks

Source selection for the P-19 Replacement development effort is not yet complete. Performing activity/location will be unknown until source selection is complete.

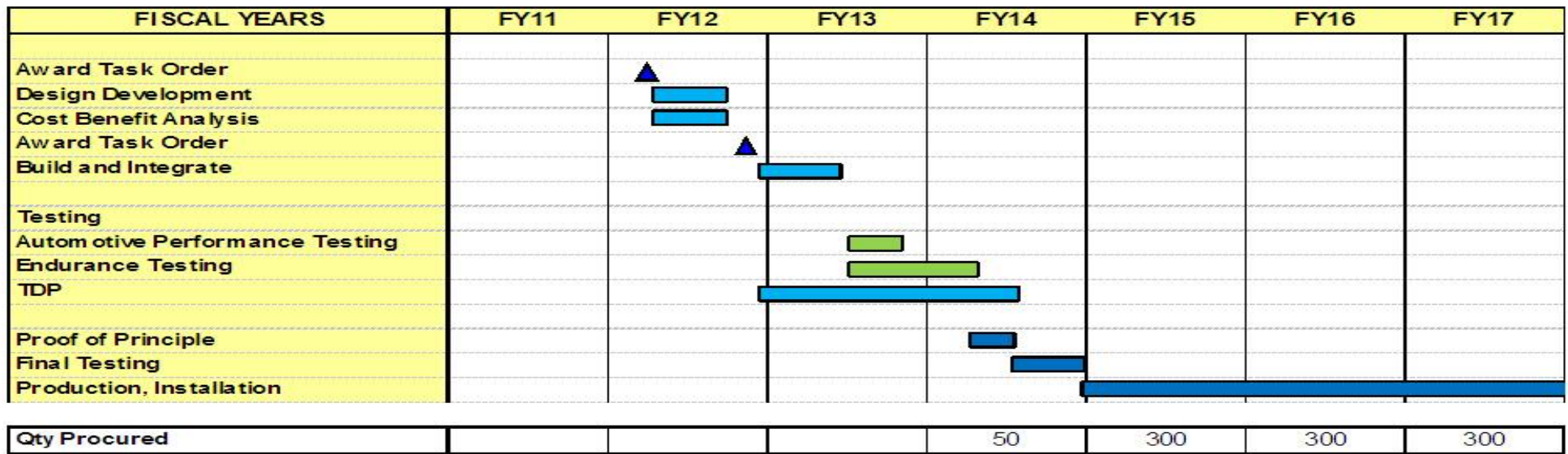
Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Family of Material Handling	MIPR	ATC:APG MD	-	-		0.494	Nov 2012	-		0.494	Continuing	Continuing	Continuing
NATC Developmental Testing	C/FFP	NATC:NV	0.796	-	Feb 2012	-		-		-	0.000	0.796	
HMMWV Sys Dev & Demonstration	C/FFP	TBD:TBD	1.912	5.800	Aug 2012	-		-		-	0.000	7.712	
HMMWV Technology Development	C/FFP	TBD:TBD	-	2.818	Aug 2012	-		-		-	0.000	2.818	
HMMWV Test	C/FFP	NATC:NV	-	3.600	Apr 2013	1.498	Oct 2012	-		1.498	3.025	8.123	
Subtotal			2.708	12.218		1.992		-		1.992			

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
HMMWV Program Management and travel	C/FFP	TBD:VA	-	1.000	Feb 2012	-		-		-	0.000	1.000	

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2509: <i>Motor Transport Mod</i>

HMMWV Mod Acquisition Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2509: <i>Motor Transport Mod</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Proj 2509</i>				
P-19 Replacement Engineering Manufacturing & Dev	2	2012	4	2014
Milestone B	1	2012	1	2012
Contract Award	1	2012	1	2012
PDR	3	2012	3	2012
Official Design Review/DRR	4	2013	4	2013
System Verification Review	4	2014	4	2014
Production Readiness Review	4	2014	4	2014
<i>HMMWV Modification</i>				
Award Task Order	1	2012	1	2012
Design Development	2	2012	3	2012
Cost Benefit Analysis	2	2012	3	2012
Task Order Award	4	2012	4	2012
Build and Integrate	4	2012	2	2013
Automotive Performance Testing	3	2013	4	2013
Endurance Testing	3	2013	2	2014
Tech Data Package (TDP)	4	2012	3	2014
Proof of Principle	2	2014	3	2014
Final Testing	3	2014	4	2014
Production, Installation	4	2014	4	2017

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2510: <i>MAGTF CSSE & SE</i>	-	-	13.974	-	13.974	9.066	7.455	6.550	6.156	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Enhanced Environmental Control Unit (E2CU) program is the second generation of a family of environmental control units from 9000 BTU to 60,000 BTU/Hr cooling output. The E2CU program will provide tactical Heating, Ventilation and Air Conditioning (HVAC) & superior reliability for all MAGTF units in all operational concepts. E2CU will replace all legacy ECUs starting in 2015 in the following sizes: 9000 BTU/Hr; 18,000 BTU/Hr; 36,000 BTU/Hr; and 60,000 BTU/Hr. These higher reliability and higher efficiency sets will use EPA-approved refrigerants, will be more energy efficient, be more mobile, easier to repair & quieter than their predecessors. A significant average fuel efficiency improvement over the current ECU family has been demonstrated. With environmental control systems consuming 50-70% of tactical electric power in theater, this savings will be a significant contribution to reducing the USMC fuel demand, and lightening the MAGTF. The Warfighter benefit includes a decreased logistics footprint, less reliance on petroleum-derived fuels, increased local energy security & reduced tanker losses (fewer on the road). The operational imperative to reduce fuel usage will consequently reduce refueling operations & exposing Marines to hazardous fuel convoy operations.

The Family of Mobile Electric Power Equipment consists of skid & trailer mounted tactical generators ranging from 1 to 200 kilowatts, Mobile Electric Power Distribution Systems, Floodlight Sets, Load Banks & Electrician's Tool Kits. This equipment is procured & fielded to provide electricity on the battlefield. Combat, combat support & combat service support units all require tactical power to operate weapons systems, Command, Control, Communications, Computers and Intelligence (C4I) systems, medical & messing facilities, environmental control equipment, & water purification systems. With over 10,000 generators and floodlight sets using diesel engines in the Operating Forces, improving their fuel efficiency and reliability will be a significant contribution to reducing the USMC fuel demand, and lightening the MAGTF. The Warfighter benefit includes a decreased logistics footprint, less reliance on petroleum-derived fuels, increased local energy security & reduced tanker losses (fewer on the road). The operational imperative to reduce fuel usage will consequently reduce refueling operations & exposing Marines to hazardous fuel convoy operations. Four discrete efforts will be pursued as follows: (1) Hybrid Generator: Funding to integrate new AMMPS 10kW Generator and energy storage devices onto a Light Tactical Trailer. Will provide capability to deliver 10kW steady state, supply up to 13kW peak demand for several hours using stored energy, provide 3kW silent operations for several hours (battery only). Will transition into production of a unit that can be integrated with the AMMPS generator. (2) Next generation power distribution. Intelligent power management devices that can integrate with existing MEPDIS-R Power Distribution Boxes and AMMPS generators. Provides capability for safe, efficient centralized power distribution from a single source to multiple loads, Automatic phase balancing of loads, power monitoring and data collection/ dissemination for remote system monitoring. (3) Next-generation FLS: Funding to integrate new 10kW AMMPS Generator and a new light tower onto a Light Tactical Trailer. Provides tactical lighting and exportable 3-phase electrical power. Will transition into production of a unit that can be integrated with the AMMPS generator. (4) Integration and product qualification testing of new 1kW diesel generator for USMC-unique applications. Generator procurement will be by customers on a DoD contract.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>
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Renewably Energy is the next generation Solar Portable Alternative Communications Energy System (SPACES) and the Ground Renewable Expeditionary Energy System (GREENS) will be focus on the improvement in the area of smaller, lighter and more efficient system. These R&D efforts will focus on achieving the Marine Corps goal of lighting the MAGTF and the individual Marine combat load though reduced battery weight and logistical fuel resupply needs.

BMASS is the next generation Battery Management and Sustainment System (BMASS), will be focused on the development of making the next generation of the Suitcase Portable Charger smaller, lighter, more efficient and high power. In addition, development of a capability which will allows the Marine Corps to transport and maintain lithium batteries throughout the fleet in a safe and expeditionary manor.

The Squad Electric Power Program will focus on further weight reduction of the Squad Electric Power System and increasing survivability and durability of the system.

The On Board Vehicle Power is to focus on flexibility and efficiency of research and development to save fuel at idle conditions and improve energy efficiency.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<p>Title: Enhanced Environmental Control Unit</p> <p align="right">Articles:</p> <p>FY 2013 Base Plans: Develop new 36,000 BTU/Hr and 60,000 BTU/Hr enviornmental control units (ECUs).</p>	-	-	2.998	-	2.998
			12	-	12
<p>Title: Mobile Power Equipment</p> <p align="right">Articles:</p> <p>FY 2013 Base Plans: Hybrid generator Development: Award three one-year RDTE contracts to develop hybrid generator on a Light Tactical Trailer. Each contractor to produce 2 for total of 6 test articles. Plan for Government testing in FY14. Articles: Next generation Power Distribution System: Award three one-year RDTE contracts to develop next generation power distribution system Each contractor to produce 2 for total of 6 test articles. Plan for Government testing in FY14. Articles: Next generation Floodlight Set (FLS): Plan for FY14 contract award.</p>	-	-	4.985	-	4.985
			6	-	6
<p>Title: Advanced Power Sources</p> <p align="right">Articles:</p> <p>Description: Solar Portable Alternative Communications Energy System(SPACES)</p>	-	-	5.991	-	5.991
			34	-	34

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Ground Renewable Expeditionary Energy Systems (GREENS) Suitcase Portable Charger Squad Electric Power On-Board Vehicle Power (OBVP)					
<i>FY 2013 Base Plans:</i> Development of new SPACES: Award three one-year RDT&E contract to develop more efficient SPACES. Each contractor to produce 2 of each size for total of 6 test articles. Plan for government testing in late FY13.					
Development of new GREENS: Award two one-year RDT&E contract to develop more efficient GREENS. Each contractor to produce 2 of each size for total of 6 test articles. Plan for government testing in FY14.					
Development of new Suitcase Portable Charger - Award two one-year RDT&E contract to develop more efficient Charger. Each contractor to produce 3 of each size for total of 6 test articles. Plan for government testing in late FY13.					
Naval Surface Warfare Center Carderock Division, Carderock, MD will procure batteries and conduct study.					
Development of Squad Electric Power - Award three one-year RDT&E contract to develop Squad Electric Power. Each contractor to produce 2 of each size for total of 6 test articles. Plan for government testing in late FY13.					
On Board Vehicle Power, fuel efficiency study - Award two one-year RDT&E contract to develop more fuel efficient OBVP kits . Each contractor to produce 2 each for total of 4 test articles. Plan for government testing in late FY13.					
Accomplishments/Planned Programs Subtotals	-	-	13.974	-	13.974

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

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013 Base</u>	<u>FY 2013 OCO</u>	<u>FY 2013 Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• PMC/6054-1: <i>Environmental Control Equipment</i>	32.505	21.374	11.252	2.316	13.568	21.457	22.241	23.033	23.834	0.000	210.648
• PMC/6366-2: <i>Mobile Power Equipment</i>	45.899	68.633	31.440	11.330	42.770	35.750	40.250	38.000	38.750	0.000	310.052

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• <i>PMC/6366-3: Advanced Power Sources</i>	15.443	10.509	24.773	8.917	33.690	26.677	50.436	32.010	32.680	0.000	201.445

D. Acquisition Strategy

Initial focus on development of more efficient 30,000 BTU/Hr and 60,000 BTU/Hr size model Environmental Control Units (ECUs), since they make up the greatest percentage of the inventory and are used extensively for shelter heating and cooling. Full and open competition. Three contractors to develop and deliver prototypes in two size models. Government testing to validate performance. Single contractor to produce both models using multi-year ID/IQ production contract. Low Rate Initial Production (LRIP), followed by LRIP testing, then Full Rate Production (FRP) to procure using PMC funds on annual Delivery Orders . ECUs are organically supported by Marines.

Initial focus on development of Hybrid Generator Systems using AMMPS generators beginning in FY13, and Power Distribution, followed by New Floodlight Set development in FY14. For each effort, strategies are very similar: Full and open competition. Three contractors to develop and deliver prototypes in two size models. Government testing to validate performance. Single contractor to produce both models using multi-year ID/IQ production contract. LRIP, followed by LRIP testing, then Full Rate Production to procure using PMC funds on annual Delivery Orders . All equipment is organically supported by Marines. The 1KW Generator effort will be to integrate and test these generators in USMC unique applications. Generators will be procured by others on a DoD contract.

The acquisition strategy for the Renewable Energy Program is to focus on improvements for the next generation Solar Portable Alternative Communications Energy System (SPACES) and the Ground Renewable Expeditionary Energy System (GREENS). These R&D efforts will focus on achieving the Marine Corps goal of lighting the MAGTAF and the individual Marine combat load though reduced battery weight and logistical fuel resupply needs. In particular the development will focus on making these systems smaller, lighter and more efficient. In addition this development effort will also focus on development needed to transition the Office of Naval Research (ONR), Reliable S (SAP - Service Accessable Point) Update Protocol (RSUP), Future Naval Capability (FNC) effort.

The acquisition strategy for the Battery Management and Sustainment System (BMASS) is to focus on the development of the next generation portable Marine Corps charger and a Portable Lithium Battery Maintainer . These R&D efforts will focus on developing a capability which allow the Marine Corps the ability to support battery needs in all locations and environments of operation (Land, sea and air). In particular the development will focus on making the next generation of the Suitcase Portable Charger smaller, lighter, more efficient and high power. It will also focus on development of a capability which allows the Marine Corps to transport and maintain lithium batteries throughout the fleet in a safe and expeditionary manor.

The acquisition strategy for the Squad Electric Power Program is to is to focus on the transition of the ONR Squad Electric Power FNC effort. this R&D effort will focus on achieving the Marine Corps goal of lighting the individual Marines combat load though reduced battery weight and increase interoperability of Marine Corps gear. In particular the effort will focus on further weight reduction of the Squad Electric Power System and increasing survivability and

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>
durability of the system.		
<p>The acquisition Strategy for the On Board Vehicle Power Program is to focus on the continued adaptation and development of technologies transitioned from the Office of Naval Research Future Naval Capability. Primary focus will be on adaptation for different vehicle platform models (M1151, M1165) as well as updates to system configuration due to Armor requirement changes. Further, changes in deployment methodology with command guidance to focus on flexibility and efficiency will drive research and development to save fuel at idle conditions and improve energy export efficiency.</p>		
E. Performance Metrics		
EECU: Energy efficiency; size; weight; EPA-approved refrigerant; affordability; organically supportable.		
MOBILE POWER: Energy efficiency; size; weight; affordability; organically supportable.		
SPACES - 50% size reduction of controller, 50% reduction in panel surface area, 50% increase in panel efficiency		
GREENS - 20% reduction in weight, 50% increase in power capability, 20% reduction in volume		
BMASS: N/A		
SQUAD ELECTRIC POWER PROGRAM: N/A		
OBVP- N/A		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
ECU DEVELOPMENT	TBD	TBD:TBD	-	-		2.996	Nov 2012	-		2.996	0.000	2.996	
HYBRID DISTRIB DEVELOPMENT	TBD	TBD:TBD	-	-		2.300	Nov 2012	-		2.300	0.000	2.300	
POWER DISTRIB DEVELOPMENT	TBD	TBD:TBD	-	-		2.700	Nov 2012	-		2.700	0.000	2.700	
SPACES	C/IDIQ	CTQ:TBD	-	-		0.700	May 2013	-		0.700	0.000	0.700	
GREENS	C/IDIQ	CTQ:TBD	-	-		1.200	Apr 2013	-		1.200	0.000	1.200	
PORTABLE BATTERY CHARGER	C/IDIQ	TBD:TBD	-	-		0.493	Apr 2013	-		0.493	0.000	0.493	
PORTABL BATTERY CHARGER	C/IDIQ	TBD:TBD	-	-		0.300	May 2013	-		0.300	0.000	0.300	
SQUAD ELECTRIC POWER	C/IDIQ	TBD:TBD	-	-		0.500	Apr 2013	-		0.500	0.000	0.500	
MTVR DEVELOPMENT	C/IDIQ	TBD:TBD	-	-		0.500	Apr 2013	-		0.500	0.000	0.500	
HMMWV	C/IDIQ	TBD:TBD	-	-		0.300	May 2013	-		0.300	0.000	0.300	
Subtotal			-	-		11.989		-		11.989	0.000	11.989	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
SPACES	MIPR	NSWC:CADEROCK, MD	-	-		0.497	Dec 2012	-		0.497	0.000	0.497	
GREENS	MIPR	NSWC:CADEROCK, MD	-	-		0.300	Dec 2012	-		0.300	0.000	0.300	
SQUAD ELECTRIC POWER	MIPR	NSWC:CADEROCK, MD	-	-		0.195	Dec 2012	-		0.195	0.000	0.195	
MTVR TESTING	MIPR	ABERDEEN TEST CENTER:ABERDEEN, MD	-	-		0.250	Dec 2012	-		0.250	0.000	0.250	

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy	DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>

Exhibit R-4, RDT&E Schedule Profile:							DATE: June 2011
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE	PROJECT		
				PE 0206626M MOBILE POWER EQUIPMENT			
HYBRID GENERATOR	FY13	FY14	FY15	FY16	FY17	FY18	FY19
Milestones	Δ MS "B"	MS "C" LRIP Δ	MS "C" FRP Δ				
Contract Awards	Δ RDTE		Δ PRODUCTION	Δ 1ST PROD D.O.	Δ 2ND PROD D.O.	Δ 3RD PROD D.O.	Δ 4TH PROD D.O.
Engr / Manuf Development							
Government Testing			LRIP PVT				
Production			LRIP	FRP			
Fielding							
Operations and Support							

POWER DISTRIBUTION	FY13	FY14	FY15	FY16	FY17	FY18	FY19
Milestones	Δ MS "B"	MS "C" LRIP Δ	MS "C" FRP Δ				
Contract Awards	Δ RDTE		Δ PRODUCTION	Δ 1ST PROD D.O.	Δ 2ND PROD D.O.	Δ 3RD PROD D.O.	Δ 4TH PROD D.O.
Engr / Manuf Development							
Government Testing			LRIP PVT				
Production			LRIP	FRP			
Fielding							
Operations and Support							

FLOODLIGHT SET	FY13	FY14	FY15	FY16	FY17	FY18	FY19
Milestones		Δ MS "B"	MS "C" LRIP Δ	MS "C" FRP Δ			
Contract Awards		Δ RDTE		Δ PRODUCTION	Δ 1ST PROD D.O.	Δ 2ND PROD D.O.	Δ 3RD PROD D.O.
Engr / Manuf Development							
Government Testing				LRIP PVT			
Production				LRIP	FRP		
Fielding							
Operations and Support							

1KW INTEGRATION	FY13	FY14	FY15	FY16	FY17	FY18	FY19
Integration Effort							
Government Testing							
Operations and Support							

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>

Exhibit R-4, RDT&E Schedule Profile:							DATE: June 2011
APPROPRIATION/BUDGET ACTIVITY			R-1 ITEM NOMENCLATURE		PROJECT		
			PE 0206626M ENVIRONMENTAL CONTROL EQUIP		Enhanced Environmental Control Unit		
	FY13	FY14	FY15	FY16	FY17	FY18	FY19
Milestones	Δ MS "B"	MS "C" LRIP Δ	MS "C" FRP Δ				
Contract Awards	Δ RDTE		Δ PRODUCTION	Δ 1ST PROD D.O.	Δ 2ND PROD D.O.	Δ 3RD PROD D.O.	Δ 4TH PROD D.O.
Engr / Manuf Development							
Government Testing		DT	LRIP TEST				
Production			LRIP	FRP			
Felding							
Operations and Support							

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>

Exhibit R-4, RDT&E Schedule Profile:		DATE:						
APPROPRIATION/BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE					PROJECT	
							Renewable Energy	
		FY13	FY14	FY15	FY16	FY17	FY18	FY19
Milestones								
Contract Awards		◆						
Technical Reviews		◆	◆	◆	◆			
Logistic Reviews			◆					
Technology Development		■	■					
Engr / Manuf Development			■	■	■			
Testing		■	■	■	■			
Production				■	■	■	■	
Fielding								
Operations and Support								

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>

Exhibit R-4, RDT&E Schedule Profile:							DATE:
APPROPRIATION/BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE			PROJECT		
					BMASS		
	FY13	FY14	FY15	FY16	FY17	FY18	FY19
Milestones							
Contract Awards	◆						
Technical Reviews	◆	◆		◆			
Logistic Reviews		◆					
Technology Development	■	■					
Engr / Manuf Development	■	■					
Testing	■	■					
Production		■	■	■	■		
Helding							
Operations and Support							

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>

Exhibit R-4, RDT&E Schedule Profile:								DATE:
APPROPRIATION/BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE				PROJECT		
						Squad Electric Power		
	FY13	FY14	FY15	FY16	FY17	FY18	FY19	
Milestones								
Contract Awards	◆							
Technical Reviews		◆		◆				
Logistic Reviews			◆		◆			
Technology Development	—————							
Engr / Manuf Development	—————							
Testing	———	———		———				
Production				—————				
Holding								
Operations and Support								

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>

Exhibit R-4, RDT&E Schedule Profile:		DATE:						
APPROPRIATION/BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE					PROJECT	
							On Board Vehicle Power	
		FY13	FY14	FY15	FY16	FY17	FY18	FY19
Milestones								
Contract Awards		◆						
Technical Reviews		◆	◆					
Logistic Reviews			◆	◆				
Technology Development		■		■				
Engr / Manuf Development			■		■			
Testing			■		■			
Production			■					
Fielding						■		
Operations and Support							■	

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
HYBRID GENERATOR				
Milestone B	1	2013	1	2013
Contract Award: Schedule Detail	2	2013	2	2013
Engr/Mfg Development: Schedule Detail	3	2013	4	2013
Milestone C LRIP: Schedule Detail	4	2014	4	2014
Eng/Mfg Develop (Milestone C): Schedule Detail	1	2014	2	2014
Govt Testing: Schedule Detail	2	2014	3	2014
Milestone C FRP: Schedule Detail	4	2015	4	2015
Milestone C Production: Schedule Detail	2	2015	2	2015
1st Production D.O.: Schedule Detail	1	2016	1	2016
FRP: Schedule Detail	1	2016	1	2016
2nd Prod D.O.: Schedule Detail	1	2017	1	2017
Production: Schedule Detail	1	2017	4	2017
LRIP PVT MS C: Schedule Detail	2	2015	3	2015
LRIP: Schedule Detail	2	2015	2	2015
FIELDING: Schedule Detail	1	2017	4	2017
OPERATIONS SUPPORT: Schedule Detail	1	2017	4	2017
POWER DISTRIBUTION				
MS B: Schedule Detail	1	2013	1	2013
CONTRACT AWARD: Schedule Detail	2	2013	2	2013
EMD: Schedule Detail	2	2013	2	2013
MS C LRIP: Schedule Detail	4	2014	4	2014

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
MS C EMD: Schedule Detail	1	2014	1	2014
GVT TESTING: Schedule Detail	2	2014	3	2014
MS C FRP: Schedule Detail	4	2015	4	2015
MS PRODUCTION: Schedule Detail	2	2015	2	2015
LRIP PVT: Schedule Detail	2	2015	3	2015
LRIP: Schedule Detail	2	2015	3	2015
1ST PROD D.O.: Schedule Detail	1	2016	1	2016
FRP: Schedule Detail	1	2016	1	2016
2ND PROD D.O.: Schedule Detail	1	2017	1	2017
PRODUCTION: Schedule Detail	1	2017	4	2017
FIELDING: Schedule Detail	1	2017	4	2017
O/S: Schedule Detail	1	2017	4	2017
FLOODLIGHT SET				
MS B: Schedule Detail	1	2014	1	2014
CONTRACT AWARD: Schedule Detail	2	2014	2	2014
EMD: Schedule Detail	3	2014	3	2014
MS C LRIP: Schedule Detail	4	2015	4	2015
MS C EMD: Schedule Detail	1	2015	2	2015
GVT TESTING: Schedule Detail	2	2015	3	2015
MS C FRP: Schedule Detail	4	2016	4	2016
PRODUCTION: Schedule Detail	2	2016	2	2016
LRIP PVT: Schedule Detail	2	2016	3	2016
LRIP: Schedule Detail	2	2016	3	2016
1ST PROD D.O.: Schedule Detail	1	2017	1	2017
FRP: Schedule Detail	1	2017	1	2017

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
1KW INTEGRATION				
INTEGRATION	2	2015	2	2015
GVT TESTING: Schedule Detail	2	2016	3	2016
O/S: Schedule Detail	1	2017	4	2017
ENVIRONMENTAL CONTROL UNIT				
MS B	1	2013	1	2013
C/AWARD: Schedule Detail	2	2013	2	2013
EMD: Schedule Detail	3	2013	4	2013
MS C LRIP: Schedule Detail	4	2014	4	2014
M/S C EMD: Schedule Detail	1	2014	2	2014
DT: Schedule Detail	2	2014	3	2014
MS C FRP: Schedule Detail	4	2015	4	2015
MS C PRODUCTION: Schedule Detail	2	2015	2	2015
LRIP TEST: Schedule Detail	2	2015	3	2015
LRIP: Schedule Detail	2	2015	3	2015
1ST PROD D.O.: Schedule Detail	1	2016	1	2016
FRP: Schedule Detail	2	2016	4	2016
2ND PROD D.O.: Schedule Detail	1	2017	1	2017
PRODUCTION: Schedule Detail	1	2017	4	2017
FIELDING: Schedule Detail	1	2017	4	2017
O/S: Schedule Detail	1	2017	4	2017
BMASS				
C/AWARD: Schedule Detail	2	2013	2	2013
BMASS TECHNICAL REVIEWS: Schedule Detail	3	2013	4	2013
BMASS TECH DEVELOP: Schedule Detail	3	2013	4	2013

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
EMD: Schedule Detail	3	2013	4	2013
TESTING: Schedule Detail	3	2013	4	2013
TECH REVIEWS: Schedule Detail	2	2014	2	2014
LOGISTIC REVIEWS: Schedule Detail	1	2014	1	2014
TECH DEVELOP: Schedule Detail	1	2014	2	2014
BMASS EMD (1): Schedule Detail	1	2014	2	2014
BMASS EMD(2): Schedule Detail	1	2014	4	2014
BMASS TESTING: Schedule Detail	2	2014	4	2014
BM PROD: Schedule Detail	3	2014	4	2014
BMASS TECH REVIEWS: Schedule Detail	2	2015	2	2015
B M TESTING: Schedule Detail	2	2015	3	2015
PRODUCTION: Schedule Detail	1	2015	4	2015
BMASS PROD: Schedule Detail	1	2016	4	2016
B PROD: Schedule Detail	1	2017	4	2017
SQUAD ELECTRIC POWER				
C/AWARD: Schedule Detail	3	2013	3	2013
TECH REVIEWS: Schedule Detail	3	2013	3	2013
SQUAD TECH DEVELOP: Schedule Detail	2	2013	4	2013
SQUAD TESTING: Schedule Detail	1	2013	3	2014
SQUAD TECH REVIEWS: Schedule Detail	4	2014	4	2014
LOG REVIEWS: Schedule Detail	2	2014	2	2014
TECH DEVELOP: Schedule Detail	1	2014	2	2014
EMD: Schedule Detail	2	2014	4	2014
TESTING: Schedule Detail	3	2014	3	2014
TECH REV: Schedule Detail	4	2015	4	2015

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
LOG REV: Schedule Detail	3	2015	3	2015
SQUAD EMD: Schedule Detail	1	2015	3	2015
SQ TESTING: Schedule Detail	3	2015	4	2015
SQ PRODUCTION: Schedule Detail	4	2015	4	2017
ON-BOARD VEHICLE POWER				
C/AWARD: Schedule Detail	2	2013	2	2013
TECH REVIEWS: Schedule Detail	3	2013	3	2013
LOG REVIEWS: Schedule Detail	4	2013	4	2013
TECH DEVELOPMENT: Schedule Detail	3	2013	3	2016
EMD: Schedule Detail	1	2014	3	2015
OBVP EMD: Schedule Detail	2	2016	4	2016
TESTING: Schedule Detail	3	2014	3	2015
OBVP TESTING: Schedule Detail	1	2016	3	2017
PRODUCTION: Schedule Detail	2	2015	4	2017
RENEWABLE ENERGY				
C/AWARDS (S): Schedule Detail	3	2013	3	2013
C/AWARD (G): Schedule Detail	3	2013	3	2013
TECH REVIEWS (S): Schedule Detail	3	2013	3	2013
TECH REVIEWS (G): Schedule Detail	3	2013	3	2013
TECH DEVELOP (S): Schedule Detail	3	2013	1	2014
TECH DEVELOP (G): Schedule Detail	3	2013	1	2014
EMD (S): Schedule Detail	4	2013	1	2015
TESTING (S): Schedule Detail	3	2013	1	2014
TEST (S): Schedule Detail	3	2014	1	2015
TECH REV (S): Schedule Detail	4	2014	4	2014

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2510: <i>MAGTF CSSE & SE</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
LOG REV (S): Schedule Detail	2	2014	2	2014
LOG REV (G): Schedule Detail	3	2014	3	2014
TESTING (G): Schedule Detail	3	2013	4	2013
TEST (G): Schedule Detail	3	2014	1	2015
C/A ONR SYS: Schedule Detail	3	2015	3	2015
TECH REV (G): Schedule Detail	2	2015	2	2015
TECH REV (ONR SYS): Schedule Detail	4	2015	4	2015
LOG REV (ONR SYS): Schedule Detail	4	2015	4	2015
TECH DEVEL (ONR SYS): Schedule Detail	3	2015	1	2016
EMD (ONR SYS): Schedule Detail	3	2015	2	2016
TEST (ONR): Schedule Detail	2	2015	3	2015
TEST (ONR SYS): Schedule Detail	3	2015	2	2016
PRODUCTION (S): Schedule Detail	2	2015	4	2017
PRODUCTION (G): Schedule Detail	1	2015	4	2017
PRODUCTION (ONR SYS): Schedule Detail	2	2016	4	2017

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>				PROJECT 2929: <i>Testing Measuring Diag Equip & SE</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2929: <i>Testing Measuring Diag Equip & SE</i>	1.375	1.479	2.043	-	2.043	2.076	2.099	2.119	2.145	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Marine Corps Family of Automatic Test Systems (ATS) formerly called Third Echelon Test Sets (TETS), provides automatic test program capability for use by technicians both in garrison and the forward edge of the battlefield; specifically in the areas of interactive electronic technical manuals, condition/predictive based maintenance, and embedded sensors and prognostics.

The Marine Corps Automatic Test Equipment (MCATE) program provides development of sustainment technology for automatic test equipment used in organizational/intermediate maintenance facilities.

The Autonomic Logistics (AL) provides platform-based situational awareness to Marine Corps ground weapon systems. Embedded Platform Logistics System (EPLS) interfaces to a weapon system data bus to collect and process sensor data into actionable information. EPLS provides systems health, fuel and ammo levels, mobile and troop load information to the combatant commander and his supporting staff.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Marine Corps Automated Test Equipment	1.153	1.228	2.043	-	2.043
Articles:	0	0	0		0
Description: Overall thrust of this program is to develop advanced technology concepts for automatic test and integrate these subsystems and components into system prototypes for field experiments and/or tests in a simulated environment. The focus is on demonstrating the military utility of technologies and applying them to our ATS acquisition programs. A primary secondary thrust is to prevent obsolescence in our current automatic test systems by identifying new technologies that can be implemented immediately.					
FY 2011 Accomplishments: Researched specifications for a new general purpose automatic test system. Developed prototype laser tester and common Elector Optic tester to provide a smaller capability that can be used forward of established bases. Identified replacement technologies for obsolete parts in legacy automatic test systems such as an instrument controller and oscilloscope.					
FY 2012 Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2929: <i>Testing Measuring Diag Equip & SE</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Activities will continue research of new testing techniques to prevent obsolescence of legacy automatic test systems (ATS). Identify replacements for signal generators and RF down-converters to prevent ATS obsolescence. Identify testing techniques for new infrared sighting assemblies. FY 2013 Base Plans: Activities will continue research of new testing techniques to prevent obsolescence of legacy systems. Develop integration techniques to address new testing solutions into fielded automatic test systems.					
Title: Autonomic Logistics	0.222	0.251	-	-	-
Articles:	0	0			
FY 2011 Accomplishments: Activities focused on investigating the integration of the Embedded Platform Logistics System (EPLS) applications with external USMC logistics applications.					
FY 2012 Plans: Activities will focus on continuous integration of the Embedded Platform Logistics System (EPLS) applications with external USMC logistics applications.					
Accomplishments/Planned Programs Subtotals	1.375	1.479	2.043	-	2.043

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PMC/41811: <i>Calibration</i>	10.004	2.176	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	48.668
• PMC/41812: <i>TETS</i>	0.000	0.000	7.078	0.000	7.078	7.199	7.324	7.456	7.583	0.000	155.812
• PMC/41813: <i>Autonomic Logistics</i>	1.019	1.093	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	120.364

D. Acquisition Strategy

Automatic Test Systems (ATS) and Marine Corps Automatic Test Equipment (MCATE) program's work is being done through Marine Corps Systems Command (MCSC) contracts and in-house at Marine Corps Logistics Base (MCLB), Albany, GA, and Naval Air Systems Command (NAVAIR), Pax River, MD.

Autonomic Logistics (AL) Embedded Platform Logistics System's (EPLS) work is being done through Naval Sea Systems Command (NAVSEA), Washington, District of Columbia.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2929: <i>Testing Measuring Diag Equip & SE</i>

E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 2929: <i>Testing Measuring Diag Equip & SE</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Study & Hardware (MCATE) 6	C/FFP	NAVAIR:Pax River, MD	-	-		0.245	Dec 2012	-		0.245	0.000	0.245	
Study & Hardware (MCATE) 2	C/FFP	MCSC:Quantico, VA	0.425	-		-		-		-	0.000	0.425	
Study & Hardware (MCATE) 4	C/FFP	MCSC:Quantico, VA	-	0.505	Mar 2012	0.650	Jan 2013	-		0.650	0.000	1.155	
Study & Hardware (MCATE) 5	C/FFP	MCSC:Quantico, VA	-	0.409	Jan 2012	0.400	Dec 2012	-		0.400	0.000	0.809	
Subtotal			0.425	0.914		1.295		-		1.295	0.000	2.634	

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 (AL)	C/CPFF	NAVSEA:Washington,District of Columbia	-	0.251	Nov 2011	-		-		-	0.000	0.251	
Engineering Support (MCATE)	WR	MCLB:Albany, GA	2.890	0.314	Nov 2011	0.748	Nov 2012	-		0.748	0.000	3.952	
Subtotal			2.890	0.565		0.748		-		0.748	0.000	4.203	

Remarks
Autonomic Logistics (AL) FY12 funds will focus on the integration of the Embedded Platform Logistics System applications with external USMC logistics. Autonomic Logistics (AL) applications include Embedded Platform Logistics System (EPLS), the EPLS MIMOSA data Repository (EMDR), and the Electronic Maintenance Support System (EMSS).

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		3.315	1.479		2.043		-	2.043	0.000	6.837	

Remarks

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 9C90: <i>MTVR Mod</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
9C90: <i>MTVR Mod</i>	0.763	1.355	2.496	-	2.496	3.420	4.297	3.923	9.771	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The MTVR Modification program line funds numerous and very important modifications and initiatives that are required to address operational priorities, engineering change proposals, safety concerns, support equipment inefficiencies, tool malfunctions, product quality deficiencies, beneficial suggestions and other issues that affect vehicle reliability, availability, maintainability and readiness. A proactive and focused approach ensures proper vehicle sustainment and life-cycle management and it allows the program office the flexibility to develop and implement improvements as needed to respond to the evolving needs of the Marine Corps.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<p>Title: Medium Tactical Vehicle Replacement (MTVR): Fuel Economy/Energy Efficiency</p> <p align="right">Articles:</p> <p>FY 2012 Plans: Funding will support PMO participation in the Office of Naval Research (ONR) Future Naval Capability (FNC) initiative for fuel economy improvements for the MTVR vehicles, which supports the CMC priorities for reducing costs, logistics footprint and improved environment.</p> <p>FY 2013 Base Plans: Funding will support PMO participation in the Office of Naval Research (ONR) Future Naval Capability (FNC) initiative for fuel economy improvements for the MTVR vehicles, which supports the CMC priorities for reducing costs, logistics footprint and improved environment.</p>	-	0.300 0	0.500 0	-	0.500 0
<p>Title: Medium Tactical Vehicle Replacement (MTVR): Engineering Change Proposal (ECP)</p> <p align="right">Articles:</p> <p>FY 2011 Accomplishments: Funding supported Transportability test and ECP development for the MTVR program. Transportability testing helps to evaluate the current maximum safe MTVR lifting weight, evaluate, engineer and price vehicle upgrades to lift MTVRs at highway Gross Vehicle Weight Rating (GVWR). Important data from this testing prevented issues which could have negatively impacted deployments and the ability of other services or agencies to transport the MTVR.</p> <p>FY 2012 Plans:</p>	0.170 0	0.300 0	0.500 0	-	0.500 0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 9C90: <i>MTVR Mod</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Funding will support Engineering Change Proposal (ECP) development and testing for the MTVR program. Continual changes in threat environment requires on-going vehicle modifications to address new and changing threats which must be developed and tested.					
<i>FY 2013 Base Plans:</i> Funding will support Engineering Change Proposal (ECP) development and testing for the MTVR program. Continual changes in threat environment requires on-going vehicle modifications to address new and changing threats which must be developed and tested.					
<i>Title:</i> Medium Tactical Vehicle Replacement (MTVR): Safety	0.358	0.205	0.499	-	0.499
<i>Articles:</i>	0	0	0		0
<i>FY 2011 Accomplishments:</i> Funding supported the development and testing of several very important safety upgrades which improved the overall safety of the MTVR vehicle and its occupants. Safety upgrades identified were: Blast Mitigation seats Floor Pads Rear Camera Vehicle Egress Modifications These upgrades addressed safety and force protection concerns identified in OIF and OEF that improved operator visibility and provided occupants another means for quick egress and protection from IED's and other incendiary threats.					
<i>FY 2012 Plans:</i> Funding will support Engineering Change Proposal (ECP) development , testing and modifications required to meet the diverse environments of current and future operations of MAGTF Expeditionary Maneuver Warfare for the MTVR program. Incorporating new safety upgrades to protect the warfighter and MTVR from possible catastrophic events as a result of continual changes in threat environment requires on-going vehicle modifications to address new and changing threats which must be developed and tested.					
<i>FY 2013 Base Plans:</i> Funding will support Engineering Change Proposal (ECP) development , testing and modifications required to meet the diverse environments of current and future operations of MAGTF Expeditionary Maneuver Warfare for the MTVR program. In response to protect the warfighter and MTVR from possible catastrophic events as a					

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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services</i> <i>Supt</i>	PROJECT 9C90: <i>MTVR Mod</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
result of continual changes in threat environment requires on-going vehicle modifications to address new and changing threats which must be developed and tested.					
<p>Title: Medium Tactical Vehicle Replacement (MTVR): Integration</p> <p align="right">Articles:</p> <p>FY 2012 Plans: Funding will support development and testing of components related to the integration of brackets and cables to accommodate add-on components and equipment (such as Blue Force Tracker (BFT), radio jammers, Intercoms, Drivers Vision Enhancer (DVE), etc) for both CONUS and OCONUS vehicles. Continual changes in threat environment requires on-going vehicle modifications which need to be incorporated into the MTVR fleet of vehicles to address new and changing threats.</p> <p>FY 2013 Base Plans: Funding will support development and testing of components related to the integration of brackets and cables to accommodate add-on components and equipment (such as Blue Force Tracker (BFT), radio jammers, Intercoms, Drivers Vision Enhancer (DVE), etc) for both CONUS and OCONUS vehicles. Continual changes in threat environment requires on-going vehicle modifications which need to be incorporated into the MTVR fleet of vehicles to address new and changing threats.</p>	-	0.200 0	0.500 0	-	0.500 0
<p>Title: Medium Tactical Vehicle Replacement (MTVR): Modeling & Simulation (M&S)</p> <p align="right">Articles:</p> <p>FY 2011 Accomplishments: Funding supported the development of an Analytic Dynamics and Structures (ADAMS) software model which addressed modeling and simulation needs for the MTVR vehicle platforms. This effort provided valuable insight into the dynamic performance characteristics of the various configurations of MTVR vehicles which increased operational effectiveness and improved efficiencies.</p> <p>FY 2012 Plans: Funding will provide continued support to address operational effectiveness and improved efficiencies of the MTVR vehicles with the use of the ADAMS software model.</p> <p>FY 2013 Base Plans: Funding will provide continued support to address operational effectiveness and improved efficiencies of the MTVR vehicles with the use of the ADAMS software model.</p>	0.235 0	0.350 0	0.497 0	-	0.497 0
Accomplishments/Planned Programs Subtotals	0.763	1.355	2.496	-	2.496

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 9C90: <i>MTVR Mod</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PMC/505000: <i>MTVR Modifications</i>	5.226	41.789	44.334	0.000	44.334	2.102	7.498	9.503	10.033	Continuing	Continuing
• PMC/508800: <i>MTVR</i>	95.757	98.224	10.466	0.000	10.466	0.000	0.000	0.000	0.000	Continuing	Continuing

D. Acquisition Strategy

The strategy for the MTVR Modification initiative is to be proactive in our approach. This will aid in the prevention of parts obsolescence, potential safety concerns, and support the needs of the Marine Corps. A proactive and focused approach ensures proper vehicle sustainment and life-cycle management and it allows the program office the flexibility to develop and implement improvements as required to respond to evolving needs. The anticipated life of the MTVR was partially based on the vehicle being at curb weight a large percentage of its life time. Due to the addition of the MTVR Armor System, various other components and the current high optempo, it is anticipated that the MTVR life expectancy will be lessened. It is important to ensure MTVR sustainment in any and all circumstances and this Modification line supports this effort.

E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>	PROJECT 9C90: <i>MTVR Mod</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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			
Prototype Development & Testing	SS/T&M	Oshkosh:Warren, MI	18.500	-		-		-		-	0.000	18.500	
Subtotal			18.500	-		-		-		-	0.000	18.500	

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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			
ECP Development	SS/T&M	Oshkosh:Warren, MI	3.945	0.200	Mar 2012	0.250	Mar 2013	-		0.250	0.713	5.108	
Integration	SS/T&M	Oshkosh:Warren, MI	1.750	0.200	Apr 2012	0.300	Apr 2013	-		0.300	0.000	2.250	
Safety Initiatives	SS/T&M	Oshkosh:Warren, MI	3.325	0.160	Jul 2012	0.249	Jul 2013	-		0.249	0.700	4.434	
Energy Efficiency	Various	TBD:TBD	-	0.300	May 2012	0.500	May 2013	-		0.500	19.800	20.600	
Subtotal			9.020	0.860		1.299		-		1.299	21.213	32.392	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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			
Modeling and Simulation (SIL)	MIPR	TARDEC:Warren, MI	0.235	0.350	Apr 2012	0.497	Apr 2013	-		0.497	0.300	1.382	
Component Upgrade, Prototype Testing	MIPR	APG:Aberdeen, MD	1.250	0.100	Jul 2012	0.300	Jul 2013	-		0.300	0.000	1.650	
Operational Testing	WR	MCOTEA:Quantico, VA	2.750	-		-		-		-	0.000	2.750	
Live Fire Testing	MIPR	ARL:Aberdeen, MD	2.520	-		-		-		-	0.000	2.520	
Modeling and Simulation	C/BA	Not Specified:Not Specified	1.495	-		-		-		-	0.000	1.495	
Component Upgrade, Prototype Testing	MIPR	NATC:NV	1.952	0.045	Jul 2012	0.400	Jul 2013	-		0.400	0.000	2.397	
Subtotal			10.202	0.495		1.197		-		1.197	0.300	12.194	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy							DATE: February 2012				
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>			R-1 ITEM NOMENCLATURE PE 0206624M: <i>Marine Corps Cmbt Services Supt</i>				PROJECT 9C90: <i>MTVR Mod</i>				
	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	37.722	1.355		2.496		-		2.496	21.513	63.086	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy

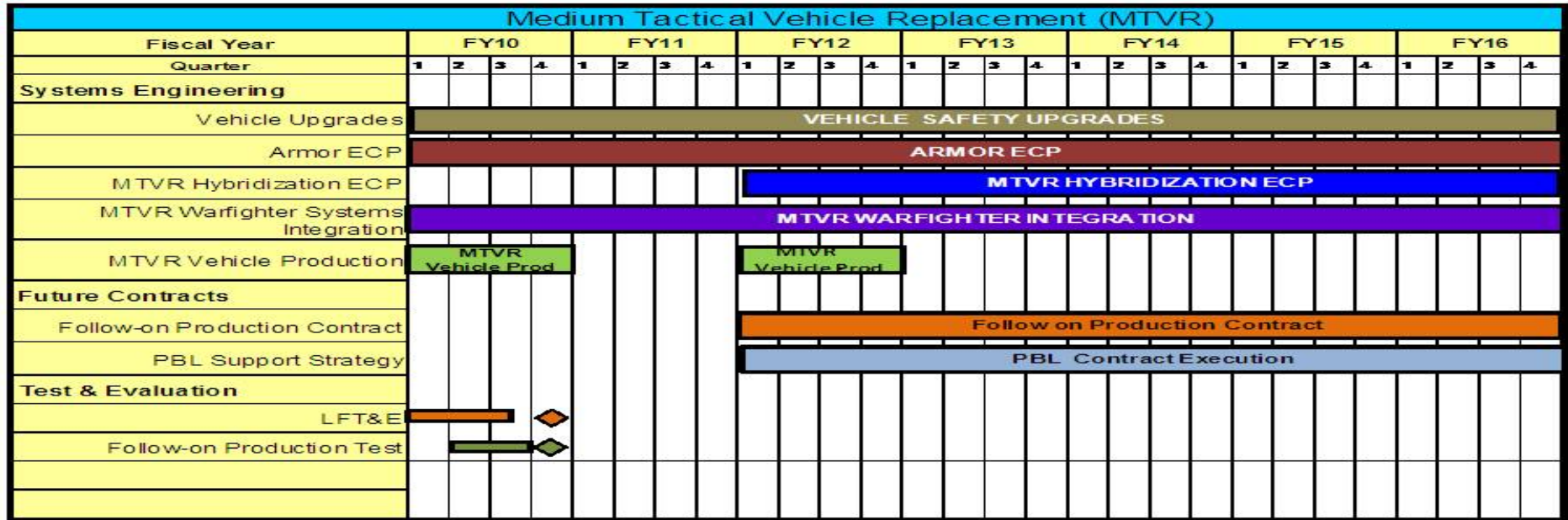
DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0206624M: Marine Corps Cmbt Services
 Supt

PROJECT
 9C90: MTRV Mod

Medium Tactical Vehicle Replacement (MTRV) Program Schedule



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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				PE 0206625M: <i>USMC Intelligence/Electronics Warfare Sys</i>							
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	21.658	18.151	22.966	-	22.966	37.623	23.484	22.887	23.062	Continuing	Continuing
2272: <i>Intel Command and Control (C2) Sys</i>	21.658	18.151	22.966	-	22.966	37.623	23.484	22.887	23.062	Continuing	Continuing

Note

- * Funds for Project C2272 were realigned to PE 0206625M in FY 2010. Prior to FY10 funds resided in PE 0206313M.
- * Topographic Production Capability (TPC) and Tactical Exploitation Group (TEG) have merged into DCGS-MC. Funding for these efforts under PE 0206625M has been realigned to DCGS-MC PE 0305208M effective FY 2011.

A. Mission Description and Budget Item Justification

This Program Element (PE) includes funds for Intelligence Command and Control (C2) which supports the employment of reconnaissance, surveillance, and target acquisition resources and the timely planning and processing of all-source intelligence. It ensures that all-source tactical intelligence is tailored to meet specific mission requirements. The systems collect and convert raw intelligence data on the battlefield into processed information and deliver the processed products to the Intelligence Analysis Systems (IAS) for analysis and dissemination.

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	20.316	14.101	16.144	-	16.144
Current President's Budget	21.658	18.151	22.966	-	22.966
Total Adjustments	1.342	4.050	6.822	-	6.822
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	1.445	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	-	4.050	6.842	-	6.842
• Rate/Misc Adjustments	-	-	-0.020	-	-0.020
• Congressional General Reductions Adjustments	-0.103	-	-	-	-

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	PE 0206625M: <i>USMC Intelligence/Electronics Warfare Sys</i>

Change Summary Explanation

FY13 increase of \$6.8M recognizes C4 developments in intelligence, surveillance and reconnaissance capabilities critically necessary for counterinsurgency operations.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0206625M: <i>USMC Intelligence/Electronics Warfare Sys</i>				PROJECT 2272: <i>Intel Command and Control (C2) Sys</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2272: <i>Intel Command and Control (C2) Sys</i>	21.658	18.151	22.966	-	22.966	37.623	23.484	22.887	23.062	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Intelligence Command and Control (C2) supports the employment of reconnaissance, surveillance, and target acquisition resources and the timely planning and processing of all-source intelligence. It ensures that all-source tactical intelligence is tailored to meet specific mission requirements. The systems below collect and convert raw intelligence data on the battlefield into processed information and deliver the processed products to the Intelligence Analysis Systems (IAS) for analysis and dissemination.

Global Command and Control System Integrated Imagery and Intelligence (GCCS-I3) is a joint program that is designed to enhance the operational Commander's situational awareness and track management through the use of a standard set of integrated, linked tools and services that maximize commonality and interoperability across the tactical theater, and national communities. GCCS-I3 operates in joint and service specific battle space and is interoperable, transportable, and compliant with the DoD mandated Common Operating Environment (COE). FY 2011 RDTE funds support the development of GCCS-I3 4.x software enhancements and USMC Intelligence systems interoperability testing and certification program with the Joint Interoperability Test Command (JITC). Effective in FY12, the GCCS-I3 funding line is merged into the Intelligence Analysis System (IAS) funding line.

Sensitive Compartmented Information Communications (SCI COMMS) - is a Super-High Frequency (SHF) multi-band satellite communications terminal, available in either High Mobility Multipurpose Wheeled Vehicle (HMMWV)-mounted or transit case configuration, that provides dedicated tactical communications capability at the Top Secret/Sensitive Compartmented Information (TS/SCI) and Secret Collateral levels to USMC intelligence units. TROJAN SPIRIT terminals provide connectivity into Joint Worldwide Intelligence Communications System (JWICS), National Security Agency Network (NSANET) and Secret Internet Protocol Router Network (SIPRNET) via the TROJAN Network Control Center. FY13 funding supports research, development and testing of incremental product improvements.

Technical Control Analysis Center (TCAC), consisting of the AN/UHQ-83 TCAC Remote Analysis Workstation (RAWS), AN/MYQ-9 TCAC Transportable Workstation, Multi-Level Security (MLS) and One Roof system, is the focal point of Radio Battalions (RADBN), Marine Corps Special Operations Command (MARSOC), and Fixed Wing Marine Electronic Attack Squadron (VMAQ) Signals Intelligence (SIGINT) operations. The TCAC automatically collects, stores, retrieves and plays back digital voice signals; fuses and analyzes SIGINT data from tactical, theater and national collectors and databases for dissemination to tactical commanders. TCAC provides SIGINT analysis applications to deployable Marine Air-Ground Task Force (MAGTF) units capable of directing and managing the technical and operational functions of other RADBN SIGINT/Electronic Warfare (EW) assets. The TCAC provides termination of national, theater and tactical data networks for data exchange with the tactical SIGINT/EW assets, the Intelligence Analysis System (IAS), national databases, and provided USMC tactical SIGINT collection and analytical data into the Real-Time Regional Gateway (RTRG) and Distributed Common Ground System (DCGS). Funding ramp up in FY13 to support increased capability of USMC Tactical SIGINT Collection Systems required to pass data to TCAC.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206625M: <i>USMC Intelligence/Electronics Warfare Sys</i>	PROJECT 2272: <i>Intel Command and Control (C2) Sys</i>
<p>Joint Surveillance Target Attack Radar (JSTARS) connectivity program will research and integrate a client software connectivity solution which will allow the JSTARS Moving Target Indicator (MTI), Fixed Target Indication (FTI) and Synthetic Aperture Radar (SAR) data to be passed from the JSTARS Common Ground Station (CGS) to lower echelons within the MAGTF. Additionally, the Marine Corps will continue future MTI and Common Data Link (CDL) sensor capabilities research and development. FY13 engineering technical and management support MTI integration.</p> <p>Tactical Remote Sensor Systems (TRSS) will provide all weather direction, location determination, targeting, and tactical indications and warning of enemy activity in the Marine Air-Ground Task Force (MAGTF) Commander's Area of Interest. The TRSS is an equipment suite consisting of three primary sub-systems: Unattended Ground Sensors (UGS); Relay Systems; and monitoring systems. The sensor systems include seismic/acoustic sensors, electro-magnetic sensors, and infrared (passive) sensors. The relay systems include SATCOM retransmission systems. The monitoring system includes the Sensor Monitoring imaging sensors group and hand-held monitors (HHM). The composition of the three sub-systems are comprised of several individual components. As the Product Improvement Program proceeds, upgrading of individual components will occur on an as needed basis.</p> <p>Team Portable Collection System - Multi-Platform Capable (TPCS-MPC) - is a semi-automated, man/team portable system providing intercept, collection, Direction-Finding (DF), reporting and collection management to MAGTF commander. It provides special signals intercept, and DF capability for each system and is modular, lightweight and team transportable. The next upgrades will be the multi-platform capability and will allow the system to exploit information from more technically advanced target sets and will provide the MAGTF commander with a modular and scalable carry on/carry off suite of equipment.</p> <p>Wide Field of View Persistent Surveillance (WFVPS) (formerly Angel Fire) is a capability that supports persistent Intelligence, Surveillance and Reconnaissance (ISR), Improvised Explosive Device (IED) mitigation, and actionable intelligence in urban and other operations (e.g. disaster relief, security, etc). It delivers broad area, near real time, geo-registered imagery down to the tactical level of execution. Consisting of airborne and ground components such as the airborne payload consists of an imagery sensor (currently Electro-Optical (EO)), on-board processors, and an air-to-ground communication link. Ground distribution network consists of the ground receive station, servers, storage and viewer client stations. WFVPS is a Marine Corps companion UUNS (10-335UA) in response to a CENTCOM JUONS (CC-0424) call for a Wide Area Staring Sensor on-board an organic USMC small UAV supporting operations in Afghanistan. The name of the program is Wide Focal Plane Array Camera (WFPAC). WFPAC represents a significant additive/new capability for the CIED fight.</p> <p>MAGTF Secondary Imagery Dissemination System (MSIDS) is the only ground prospective Family of Systems (FoS) that provides organic tactical digital imagery collection, transmission and receiving capability to the MAGTF Commander. MSIDS is comprised of components necessary to enable Marines to capture, manipulate, annotate, transmit or receive images in Near Real Time (NRT), internally with subordinate commands that are widely separated throughout the areas of operation and externally with higher adjacent commands. MSIDS capability resides with the MAGTF G/S-2 sections and Ground Reconnaissance Battalions, Light Armored Reconnaissance Battalions, Infantry Battalion Scout Sniper Platoons and Marine Special Operations Command. The MSIDS FoS extends the digital imaging capability to all echelons within the Marine Expeditionary Force (MEF), down to and including battalions and squadrons. Captured images are capable of being forwarded throughout the MAGTF through the use of Base Station Workstation/Communication Interface (BW/CI), Out Station Workstation/Communication Interface (OW/CI) or existing C4ISR architecture. Images can also be transmitted to the Tactical Exploitation Group (TEG) for more detailed processing and analysis. A recent increase of the MSIDS Video Exploitation Workstation (VEW) requirement within Infantry Battalions and Wing units, down to the squadron level, has grown from 18 to 140 in the past year. The VEW is utilized to import, manipulate, annotate still and video imager, create intelligence products, lift still frames from video, view multi-format TV</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	PE 0206625M: <i>USMC Intelligence/Electronics Warfare Sys</i>	2272: <i>Intel Command and Control (C2) Sys</i>

signals and provide a field briefing capability. MSIDS FoS is currently employed in every location world-wide where the Marine Corps participates in military operations to include Irregular Warfare. MSIDS is currently or has been employed in Iraq, Kuwait, Afghanistan, Haiti, Philippines, and Horn of Africa.

Intelligence Equipment Readiness (IER) - Effective in FY12, the Tactical Exploitation of National Capabilities (TENCAP) program funding line was merged into the IER funding line. The funding will continue to support rapid prototyping and integration of emerging technologies involving national systems data. The IER provides a responsive capability to alleviate Marine Corps intelligence systems shortfalls created by the rapidly evolving missions, threats and command relationships associated with the Overseas Contingency Operations (OCO). The program provides for rapid technology insertion, as well as quick reaction training and logistics, to meeting the time sensitive intelligence infrastructure requirements of Marine Corps Operating Forces and the theater and service intelligence organizations supporting those forces. IER rapidly mitigates intelligence infrastructure shortfalls through exploitation of Commercial Off-the-Shelf (COTS), Government Off-the-Shelf (GOTS) and Non-Developmental Item technology to the greatest extent practical. This effort also centralizes support for Marine Corps intelligence infrastructure items and systems that are not separately identified within the program funding lines. IER addresses requirements that span the entire Marine Corps intelligence systems architecture.

Intelligence Analysis Systems, Family of Systems (IAS FoS) supports the employment of systems that provide timely planning and all source fusion, analysis, and dissemination of intelligence across the Intelligence Community of the Marine Air-Ground Task Force (MAGTF). IAS FoS ensures its systems are scalable dependant on the mission, and ensures that tactical intelligence is tailored to meet specific mission requirements from conventional to irregular warfare. FY12 R&D OCO funding for IAS Mod Kits is requested to conduct integration, system testing, and evaluation of technology to incorporate into Intelligence Analysis Systems (IAS) Family of Systems (FoS) to directly support the Marines in OEF-A. Current intelligence efforts in Afghanistan have demonstrated a compelling need for COTS/GOTS product purchases to provide improved linking of structured and unstructured data sources, data and information discovery, and improved interoperability of data and exchange amongst the existing toolset applications. Without funding, the impact to OEF-A, as well as other Marine Corps overseas efforts, will be the lack of the Marines, and IAS FoS's ability to stay up-to-date with current technology (COTS/GOTS) that allows an increase in response time of intelligence analysis process, better quality intelligence products, and timely dissemination for units in support of OEF, or other overseas contingency operations. Effective in FY12, the GCCS-I3 funding line is merged into the Intelligence Analysis System (IAS) funding line.

Radio Reconnaissance Equipment Program (RREP) provides the Radio Battalions (RadBns), Radio Reconnaissance Platoons (RRP), and the Marine Corps Forces Special Operations Command (MARSOC) Direct Support Teams (DSTs) with mission unique Signals Intelligence/Ground Electronic Warfare (SIGINT/EW) Equipment suites. The latest suite of equipment, the SIGINT Suite 3 (SS-3) is comprised of technology and equipment necessary to prosecute advanced signals. RREP will insert a new Electronic Attack (EA) system into the RREP Family of Systems (FoS) in FY12. The RRP and DST Marines are trained and equipped to support the full spectrum of Marine Expeditionary Unit Special Operations Capable (MEU SOC) mission profiles as well as provide real time, imbedded support to any special operations scenario. This provides the supported commander greater flexibility in employing his SIGINT assets when the use of conventional RadBn assets are not feasible. RREP is currently maintaining the SS-3 using an evolutionary development approach that inserts the latest technology into the suite as it becomes mature. This enables the SS-3 to remain a current platform against emerging threats.

Counterintelligence (CI) and Human Intelligence (HUMINT) Equipment Program (CIHEP) provides the MAGTF with integrated, standardized, and interoperable information (automated data processing), communication, and specialized equipment to conduct the full spectrum of tactical CI/Force Protection to include Irregular Warfare, HUMINT, and technical collection operations in accordance with applicable national oversight directives. CIHEP provides each CI/HUMINT Company (CIHCo)

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206625M: <i>USMC Intelligence/Electronics Warfare Sys</i>	PROJECT 2272: <i>Intel Command and Control (C2) Sys</i>
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with a suite of state-of-the-market equipment comprised of commercial-off-the-shelf, government-off-the-shelf, and non-developmental items (COTS/GOTS/NDI). It integrates audio, video, imagery, communications, technical surveillance and computer equipment into lightweight, modular, scalable, deployable packages. CIHEP enhances the capability to collect, receive, process, and disseminate CI/HUMINT information from overt, sensitive, technical, tactical, and Force Protection, in the service, joint, and combined forces area of operations.

Intelligence Broadcast Receiver (IBR) The USB ENTR is the newest part of the Intelligence Broadcast Receiver family conforming to the DoD Integrated Broadcast Service (IBS) objectives of interoperability and commonality across the Services to receive and process near real-time intelligence data. The USB ENTR system is an integral portion of 7 additional Programs of Record, providing a significant reduction in size and weight from the currently fielded system. The USB ENTR provides access to IBS data via Ultra High Frequency (UHF) Satellite Communications (SATCOM) broadcast channels delivering near real-time intelligence information within Combatant Commanders theater of operation allowing intelligence analysis to respond to accelerated operations cycles supporting the Global War on Terrorism. Tactical Exploitation of National Capabilities (TENCAP) is to exploit current national reconnaissance systems and programs by examining both technical and operational capabilities, implementing training, and sponsoring concept demonstrations to directly support Marine Corps operating forces. The goal is to pursue technologies which exploit data from national systems to enhance intelligence support to the Marine Air-Ground Task Force (MAGTF) and/or the supported Joint Task Force commander.

Communication Emitter Sensing and Attacking System (CESAS) has assumed the mission of sensing and denying the enemy the use of the electromagnetic spectrum, thereby disrupting the enemy's command and control system. The CESAS covers the High Frequency (HF), Very High Frequency (VHF) and Ultra High Frequency (UHF) frequency ranges against enemy emitters using modern modulation schemes. It is a D-30, Tier 3 system which allows flexible employment to conduct Electronic Attack (EA) while on the move or in a stationary position, thus optimizing the Commanders' ability to employ this asset for the greatest success of the mission. FY12 RDT&E OCO funding for CESAS is required to support software upgrades and Information Assurance updates for systems supporting Marine Expeditionary Brigade (MEB) ground Electronic Attack (EA) activities in Operation Enduring Freedom (OEF). This funding will also support the development of the advanced componentry required to reduce equipment damage realized by the Radio Battalions (RadBns) due to enemy engagement and platform suspension issues across rugged terrain. FY 2013 funding is required for development efforts for the next generation Marine Corps Ground Electronic Attack System (MCGEAS).

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: *Intelligence Analysis System, Mod Kit (IAS): Product Development	0.957	1.734	1.079	-	1.079
Articles:	0	0	0		0
Description: Effective in FY12, the Global Command Control Station (GCCS)-I3 funding line is merged into the Intelligence Analysis System (IAS) funding line.					
FY 2011 Accomplishments: Supported software development and integration of all IAS FoS related COTS and GOTS software.					
FY 2012 Plans: Support software development and integration of all IAS FoS related COTS and GOTS software.					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy			DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206625M: <i>USMC Intelligence/Electronics Warfare Sys</i>		PROJECT 2272: <i>Intel Command and Control (C2) Sys</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					
FY12 OCO funding is requested to conduct integration, system testing, and evaluation of technology to incorporate into Intelligence Analysis Systems (IAS) Family of Systems (FoS) to directly support the Marines in OEF-A. Current intelligence efforts in Afghanistan have demonstrated a compelling need for COTS/GOTS product purchases to provide improved linking of structured and unstructured data sources, data and information discovery, and improved interoperability of data and exchange amongst the existing toolset applications. Without funding, the impact to OEF-A, as well as other Marine Corps overseas efforts, will be the lack of the Marines, and IAS FoS's ability to stay up-to-date with current technology (COTS/GOTS) that allows an increase in response time of intelligence analysis process, better quality intelligence products, and timely dissemination for units in support of OEF, or other overseas contingency operations.					
FY 2013 Base Plans: Planned to support software development and integration of all IAS FoS related COTS and GOTS software.					
Title: *Intelligence Analysis System, Mod Kit (IAS): Support					
Articles:					
	0.523	2.214	1.056	-	1.056
	0	0	0		0
Description: Effective in FY12, the Global Command Control Station (GCCS)-I3 funding line is merged into the Intelligence Analysis System (IAS) funding line.					
FY 2011 Accomplishments: Program management support for the integration and updates of the GCCS-I3 software into the IAS FoS software baseline. Planned purchase of R&D prototyping software/hardware efforts for future IAS FoS software baselines.					
FY 2012 Plans: Program management support for the integration and updates of the GCCS-I3 software into the IAS FoS software baseline. Planned purchase of R&D prototyping software/hardware efforts for future IAS FoS software baselines.					
FY 2013 Base Plans: Program management support for the integration and updates of the GCCS-I3 software into the IAS FoS software baseline. Planned purchase of R&D prototyping software/hardware efforts for future IAS FoS software baselines.					
Title: *GCCS-I3: Software Engineering Support					
	0.682	-	-	-	-
	0				

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy			DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206625M: <i>USMC Intelligence/Electronics Warfare Sys</i>	PROJECT 2272: <i>Intel Command and Control (C2) Sys</i>				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)						
		FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Description: Effective in FY12, the Global Command Control Station (GCCS)-I3 funding line is merged into the Intelligence Analysis System (IAS) funding line.						
FY 2011 Accomplishments: Integration and updates in support of incorporating GCCS-I3 software into the IAS FoS software baseline.						
Title: *GCCS-I3: Program Support		0.578	-	-	-	-
	Articles:	0				
Description: Effective in FY12, the Global Command Control Station (GCCS)-I3 funding line is merged into the Intelligence Analysis System (IAS) funding line.						
FY 2011 Accomplishments: Program management support for the integration and updates of the GCCS-I3 software into the IAS FoS software baseline.						
Title: *GCCS-I3: Acquisition Logistics Support		0.129	-	-	-	-
	Articles:	0				
Description: Effective in FY12, the Global Command Control Station (GCCS)-I3 funding line is merged into the Intelligence Analysis System (IAS) funding line.						
FY 2011 Accomplishments: Provided support services related to the storage and shipment of GCCS-I3 software to include configuration management.						
Title: *GCCS-I3: Program Testing		0.141	-	-	-	-
	Articles:	0				
Description: Effective in FY12, the Global Command Control Station (GCCS)-I3 funding line is merged into the Intelligence Analysis System (IAS) funding line.						
FY 2011 Accomplishments: Provided support for integration level testing of GCCS-I3 in the IAS FoS software baseline.						
Title: *Technical Control and Analysis Center PIP (TCAC-PIP): Product Development		1.817	1.392	3.406	-	3.406
	Articles:	0	0	0		0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy				DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206625M: <i>USMC Intelligence/Electronics Warfare Sys</i>		PROJECT 2272: <i>Intel Command and Control (C2) Sys</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)					
FY 2011 Accomplishments: Updated software to accept new receiver data to ensure collection reports could be processed and disseminated by TCAC. Implemented Information Assurance and Vulnerability Assessment (IAVA) updates to maintain TCAC Authority to Operate.					
FY 2012 Plans: Continue software upgrade for the RAWS Transportable Work Station (TWS) and planned integration of the Cyber Analysis Tools into the TCAC Family of Systems (FoS). Planned integration of Windows 7 into the TWS laptop. Integrate GAIL 5.2 software into the TCAC baseline.					
FY 2013 Base Plans: Planned integration of Cyber Analysis Tools in the TCAC Family of Systems (FoS) and data exchange enhancements.					
Title: *Technical Control and Analysis Center PIP (TCAC-PIP): Support					
Articles:					
	0.077	0.545	1.100	-	1.100
	0	0	0		0
FY 2011 Accomplishments: Planned program management support.					
FY 2012 Plans: Continue program management support for the Integration of the Cyber Analysis Tools into the TCAC FoS.					
FY 2013 Base Plans: Continue program management support for the Integration of the Cyber Analysis Tools into the TCAC FoS.					
Title: *Tactical Remote Sensor System (TRSS): Product Development - Urban Sensor Systems (USS)					
Articles:					
	1.097	-	-	-	-
	0				
Description: Tactical Remote Sensor Systems (TRSS) will provide all weather direction, location determination, targeting, and tactical indications and warning of enemy activity in the Marine Air-Ground Task Force (MAGTF) Commander's Area of Interest. The TRSS is an equipment suite consisting of three primary sub-systems: Unattended Ground Sensors (UGS); Relay Systems; and monitoring systems. The sensor systems include seismic/acoustic sensors, electro-magnetic sensors, and infrared (passive) sensors. The relay systems include SATCOM retransmission systems. The monitoring system includes the Sensor Monitoring imaging sensors group and hand-held monitors (HHM). The composition of the three sub-systems are comprised of several individual components. As the Product Improvement Program proceeds, upgrading of individual components					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy			DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206625M: <i>USMC Intelligence/Electronics Warfare Sys</i>	PROJECT 2272: <i>Intel Command and Control (C2) Sys</i>				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)						
		FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
will occur on an as needed basis. Overseas Contingency Operations (OCO) funding of \$650K for FY12 is required for developing critical upgrades to TRSS systems; the software development improves the TRSS sensor management software to integrate TRSS sensor systems with the theater-provided-equipment/sensor systems being used in OEF. The modifications developed, and integrated into systems used in theater, with the OCO funds will directly support the Marine Forces operations and maintain the fast-paced technology evolution.						
FY 2011 Accomplishments: Developed the Urban Sensor Systems (USS) for the TRSS.						
Title: *Tactical Remote Sensor System (TRSS): Product Development - CSR Integration		1.529	0.400	-	-	-
		Articles: 0	0			
FY 2011 Accomplishments: Continued the development efforts and initiated the Common Sensor Radio (CSR) integration.						
FY 2012 Plans: Continue the CSR integration. \$343K of this integration effort will be for the required development of the critical upgrades to TRSS systems for Overseas Contingency Operations. The development improves the TRSS sensor systems integration with theater-provided-equipment/sensor systems currently in OEF.						
Title: *Tactical Remote Sensor System (TRSS): Support - Engineering and Technical		0.988	0.307	0.600	-	0.600
		Articles: 0	0	0		0
FY 2011 Accomplishments: Continued the engineering and technical management support.						
FY 2012 Plans: Continue the engineering and technical management support, specifically required for developing critical upgrades to TRSS systems for Overseas Contingency Operations. This software development improves the TRSS sensor management software in order to integrate TRSS sensor systems with theater-provided-equipment sensor systems in OEF.						
FY 2013 Base Plans: Continue the on-going engineering and technical management support for testing and integrating the detector upgrades.						
Title: *Tactical Remote Sensor System (TRSS): Test and Evaluation - IOT&E, Increment II		0.120	0.350	0.150	-	0.150
		Articles: 0	0	0		0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206625M: <i>USMC Intelligence/Electronics Warfare Sys</i>	PROJECT 2272: <i>Intel Command and Control (C2) Sys</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<p><i>FY 2011 Accomplishments:</i> Planned upgrades to Increment II.</p> <p><i>FY 2012 Plans:</i> Planned IOT&E for the TRSS 6.0 baseline.</p> <p><i>FY 2013 Base Plans:</i> Continue planned Test and Evaluation events and documentation for the TRSS 6.0 baseline.</p>					
<p><i>Title:</i> Wide Field of View Persistent Surveillance (WVPS): Product Development</p> <p align="right"><i>Articles:</i></p>	-	0.256 0	0.025 0	-	0.025 0
<p><i>FY 2012 Plans:</i> Product development for Persistent Intelligence Surveillance and Reconnaissance (P-ISR).</p> <p><i>FY 2013 Base Plans:</i> Continued product development for Persistent Intelligence Surveillance and Reconnaissance (P-ISR).</p>					
<p><i>Title:</i> *MAGTF Secondary Imagery Dissemination System (MSIDS): Support - Engineering and Technical</p> <p align="right"><i>Articles:</i></p>	0.269 0	0.288 0	0.379 0	-	0.379 0
<p><i>FY 2011 Accomplishments:</i> Provided on-going technical and engineering support for product development of hardware and software refresh.</p> <p><i>FY 2012 Plans:</i> Continue on-going technical and engineering support for product development of hardware and software refresh.</p> <p><i>FY 2013 Base Plans:</i> Continue on-going technical and engineering support for product development of hardware and software refresh.</p>					
<p><i>Title:</i> *Joint Surveillance Target Attack Radar System (JSTARS): Support</p> <p align="right"><i>Articles:</i></p>	0.721 0	-	0.431 0	-	0.431 0
<p><i>FY 2011 Accomplishments:</i> Continued engineering, technical and management support and MTI integration.</p> <p><i>FY 2013 Base Plans:</i> Engineering technical and management support and MTI integration.</p>					
<p><i>Title:</i> *Intelligence Equipment Readiness (IER): Support - Program and Technical</p>	0.196	2.523	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206625M: <i>USMC Intelligence/Electronics Warfare Sys</i>	PROJECT 2272: <i>Intel Command and Control (C2) Sys</i>

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<p align="right">Articles:</p> <p>FY 2011 Accomplishments: Planned program management and technical support.</p> <p>FY 2012 Plans: Continue program management and technical support for Rapid Technology Insertion. \$1M increase in FY12 due to re-alignment of IER PMC and OMMC into RDT&E appropriation to address development efforts in Rapid Technology Insertion to rapidly mitigate intelligence infrastructure shortfalls. An additional \$618K increase in FY12 as a result of the merger of the Tactical Exploitation of National Capabilities (TENCAP) program into the IER funding line. The funding will continue to support rapid prototyping and integration of emerging technologies involving national systems data.</p>	0	0			
<p>Title: *Tactical Remote Sensor System (TRSS): Product Development - RSMS VER 4.2.2.</p> <p align="right">Articles:</p> <p>FY 2011 Accomplishments: Completed the software upgrade/migration from Remote Sensor Management System (RSMS) VER 5.0 to Sentinel VER 1.0.</p> <p>FY 2012 Plans: Continue TRSS evolutionary software upgrade to Sentinel VER 1.6.</p> <p>FY 2013 Base Plans: Continue TRSS evolutionary software upgrade to Sentinel VER 2.0.</p>	0.850 0	0.295 0	0.310 0	-	0.310 0
<p>Title: *SCI COMMS: Support - Engineering and Technical Support</p> <p align="right">Articles:</p> <p>FY 2011 Accomplishments: Completed engineering and technical support.</p> <p>FY 2012 Plans: Funding will be be utilized for engineering and technical support.</p> <p>FY 2013 Base Plans:</p>	0.410 0	0.431 0	1.195 0	-	1.195 0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy				DATE: February 2012																	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0206625M: <i>USMC Intelligence/Electronics Warfare Sys</i>		PROJECT 2272: <i>Intel Command and Control (C2) Sys</i>																	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)																					
Funding will support an Analysis of Alternatives(AoA) for the Team Level variant. RDT&E is required for Bandwidth in order to test for interoperability and accreditation for Top Secret/Sensitive Compartmented Information(TS/SCI) connectivity with the TROJAN Network Center.																					
Title: *Radio Recon Equipment Program (RREP): Support - Program and Technical																					
Articles:																					
<table border="1"> <thead> <tr> <th></th> <th>FY 2011</th> <th>FY 2012</th> <th>FY 2013 Base</th> <th>FY 2013 OCO</th> <th>FY 2013 Total</th> </tr> </thead> <tbody> <tr> <td>2.262</td> <td>0.831</td> <td>1.127</td> <td>-</td> <td>1.127</td> </tr> <tr> <td>0</td> <td>0</td> <td>0</td> <td>-</td> <td>0</td> </tr> </tbody> </table>							FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	2.262	0.831	1.127	-	1.127	0	0	0	-	0
	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total																
2.262	0.831	1.127	-	1.127																	
0	0	0	-	0																	
FY 2011 Accomplishments: Continued to upgrade software architecture to improve system interoperability with TCAC, full system integration testing and evaluation, developed interoperability within the Family of Systems (FoS) and continued research on control and interface technologies for SS-3 incremental upgrades. Continued research for basic collection and direction finding capability refresh and research for man-packable Network Survey/Terminal Guidance capability.																					
FY 2012 Plans: Continued to upgrade software architecture to improve system interoperability with TCAC, full system integration testing and evaluation, developed interoperability within the Family of Systems (FoS) and continued research on control and interface technologies for SS-3 incremental upgrades. Continued research for basic collection and direction finding capability refresh and research for man-packable Network Survey/Terminal Guidance capability.																					
FY 2013 Base Plans: Continue research on control and interface technologies for SS-3 incremental upgrades, full system integration testing and evaluation and continue to develop interoperability within the FOSS. Will continue to upgrade software architecture to improve system interoperability with TCAC.																					
Title: *Counterintel and Human Intel Equip (CIHEP): Support - Engineering and Technical																					
Articles:																					
<table border="1"> <thead> <tr> <th></th> <th>FY 2011</th> <th>FY 2012</th> <th>FY 2013 Base</th> <th>FY 2013 OCO</th> <th>FY 2013 Total</th> </tr> </thead> <tbody> <tr> <td>0.129</td> <td>0.133</td> <td>0.185</td> <td>-</td> <td>0.185</td> </tr> <tr> <td>0</td> <td>0</td> <td>0</td> <td>-</td> <td>0</td> </tr> </tbody> </table>							FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	0.129	0.133	0.185	-	0.185	0	0	0	-	0
	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total																
0.129	0.133	0.185	-	0.185																	
0	0	0	-	0																	
FY 2011 Accomplishments: Conducted Independent Verification and Validation (IV&V) on software baseline. Continued engineering, integration and technical support for the refresh of program hardware and software.																					
FY 2012 Plans: Conduct the materiel solution analysis, and continued the engineering, integration, and technical support for the refresh of CIHEP hardware and software.																					
FY 2013 Base Plans:																					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy			DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT			
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	PE 0206625M: <i>USMC Intelligence/Electronics Warfare Sys</i>	2272: <i>Intel Command and Control (C2) Sys</i>			
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Continue the on-going materiel solution analysis, and the engineering, integration, and technical support for the evolving refresh of the CIHEP hardware and software.					
Title: *Team Portable Collection System (TPCS): Product Development <p align="right">Articles:</p> <p>FY 2011 Accomplishments: Completed system development of upgrades to SIGINT suite.</p> <p>FY 2012 Plans: System development of technology insertion upgrades.</p> <p>FY12 OCO (\$1.5M) is required to meet new requirements to integrate Special Intelligence technologies. Overseas Contingency Operations (OCO) funds are needed to complete the development, integration, modification, and testing efforts. These new Radio Battalion (RadBn) Modifications (Mods) Field User Evaluation (FUE) systems will be transitioned into the TPCS configuration to include MoonShine, 4453 Receivers, ICS-401, Internal Directional Finding (DF) Processor, precision location tools, and Snap-in Sleeve Design. OCO funds are necessary to complete the development of these technology insertions to execute subsequent FY13 procurement and deployment to meet emerging Operation Enduring Freedom (OEF) requirements.</p> <p>FY 2013 Base Plans: Continue to fund the integration of the Special Intelligence technologies, the Terminal Guidance, Firefly, ICS-401, and MoonShine.</p>	1.213 0	2.500 0	2.915 0	-	2.915 0
Title: *Team Portable Collection System (TPCS): Test and Evaluation <p align="right">Articles:</p> <p>FY 2011 Accomplishments: Continued efforts for training development and test support.</p> <p>FY 2012 Plans: Post Production Testing for the Block O and testing efforts for the Block I.</p> <p>FY 2013 Base Plans: Continue efforts for training development and test support.</p>	1.287 0	1.972 0	0.665 0	-	0.665 0
Title: *Team Portable Collection System (TPCS): Support	1.500	0.721	0.717	-	0.717

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206625M: <i>USMC Intelligence/Electronics Warfare Sys</i>	PROJECT 2272: <i>Intel Command and Control (C2) Sys</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
<p align="right">Articles:</p> <p>FY 2011 Accomplishments: Program support and management with Space and Naval Warfare Systems Command Systems Center-Atlantic.</p> <p>FY 2012 Plans: Planned program support and management with Space and Naval Warfare Systems Command Systems Center-Atlantic.</p> <p>FY 2013 Base Plans: Planned program support and management with Space and Naval Warfare Systems Command Systems Center-Atlantic.</p>	0	0	0		0
<p>Title: *Communication Emitter Sensing and Attacking System (CESAS): Product Development</p> <p align="right">Articles:</p> <p>FY 2012 Plans: OCO: This funding is required to support software upgrades and Information Assurance updates for systems supporting Marine Expeditionary Brigade (MEB) ground Electronic Attack (EA) activities in Operation Enduring Freedom (OEF). This funding will also assist in the development of the advanced componentry required to reduce equipment damage realized by the Radio Battalions (RadBns) due to enemy engagement and platform suspension issues across rugged terrain.</p> <p>FY 2013 Base Plans: This funding is required for development efforts for the next generation Marine Corps Ground Electronic Attack System (MCGEAS). Funding will provide for 3 development prototypes that will require modifications to ensure requirements to delay, disrupt, and deny communications are met. Will be conducting systems engineering tests such as the System Requirements Review (SRR) and System Functional Review (SFR).</p>	-	0.500 0	2.080 0	-	2.080 0
<p>Title: *Communication Emitter Sensing and Attacking System (CESAS): Test and Evaluation</p> <p align="right">Articles:</p> <p>FY 2013 Base Plans: This funding is required for the next generation Marine Corps Ground Electronic Attack System (MCGEAS). Funding will provide for the Test Readiness Review (TRR) and the Developmental Test (DT).</p>	-	-	0.625 0	-	0.625 0
<p>Title: Intelligence Equipment Readiness (IER): Product Development</p>	-	-	2.243	-	2.243

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012				
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT				
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	PE 0206625M: <i>USMC Intelligence/Electronics Warfare Sys</i>	2272: <i>Intel Command and Control (C2) Sys</i>				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Articles:				0		0
FY 2013 Base Plans: Product development for Rapid Technology Insertion.						
Title: *Wide Field of View Persistent Surveillance (WVPS): Support - Engineering and Technical		-	0.178	-	-	-
Articles:			0			
FY 2012 Plans: Engineering and technical support for Persistent Intelligence Surveillance and Reconnaissance (P-ISR).						
Title: *Intelligence Broadcast Receiver (IBR): Product Development		0.490	0.421	0.113	-	0.113
Articles:		0	0	0		0
FY 2011 Accomplishments: Planned engineering and technical support.						
FY 2012 Plans: Continue contractor program support for USB ENTR Integration, Common Message Format and Tactical Receive Segment Software Testing.						
FY 2013 Base Plans: Continue engineering and technical support for USB ENTR Integration.						
Title: *Communication Emitter Sensing and Attacking System (CESAS): Support		-	-	0.502	-	0.502
Articles:				0		0
FY 2013 Base Plans: Program support and management.						
Title: *Intelligence Broadcast Receiver (IBR): Support		0.147	0.160	0.063	-	0.063
Articles:		0	0	0		0
FY 2011 Accomplishments: Planned contractor program support.						
FY 2012 Plans: Planned contractor program support for USB ENTR Integration, Common Message Format and Tactical Receive Segment Software Testing.						
FY 2013 Base Plans:						

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Continue contractor program support for USB ENTR Integration.					
<p>Title: *Tactical Exploitation of National Capabilities (TENCAP): Program Support</p> <p align="right">Articles:</p> <p>FY 2011 Accomplishments: Continue program support and management; evaluate National Intelligence data systems for MAGTF applicability. Continued advanced technology demonstrations and integration into established MAGTF ISR architecture. Continue to participate in the JCS directed special projects exercises. Continued training and education efforts by providing the Operating Forces with TENCAP simulation, visualization, and data receipt and dissemination capabilities. Continued to support operational planning and enhance Operating Force capabilities to utilize national intelligence data within the MAGF ISR architecture.</p> <p>FY 2013 Base Plans: Provide program management and support for the evaluation of national intelligence data systems applicability to the operation forces. Conduct technical assessments of innovative national data receipt and dissemination capabilities for insertion into MCISR-E. Continue to support operational planning and enhance Operating Force capabilities to utilize national intelligence data within the MAGTF ISR architecture. Continue training and education efforts by providing the operating forces with TENCAP simulation, visualization, and improved data receipt and dissemination capabilities.</p>	3.354 0	-	0.500 0	-	0.500 0
<p>Title: *Tactical Exploitation of National Capabilities (TENCAP): Technical Assessments</p> <p align="right">Articles:</p> <p>FY 2011 Accomplishments: Conducted technical assessments of emerging National data dissemination capabilities. Continuing to focus on keeping pace with the rapid evolution of technology in the downlink, collection, receipt, and processing capabilities of national intelligence systems.</p> <p>FY 2013 Base Plans: Conduct research and development, advanced technology demonstrations, and integration of emerging technologies into the Marine Corps Intelligence, Surveillance, and Reconnaissance Enterprise (MCISR-E). Conduct technical assessments of innovative national data receipt and dissemination capabilities for insertion into the MCISR-E. Coordinate with national agencies and laboratories, such as the Office of Naval Research, for exploration of collaborative S&T/R&D efforts to bring evolutionary intelligence capabilities to the operating forces.</p>	0.192 0	-	1.500 0	-	1.500 0
Accomplishments/Planned Programs Subtotals	21.658	18.151	22.966	-	22.966

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206625M: <i>USMC Intelligence/Electronics Warfare Sys</i>	PROJECT 2272: <i>Intel Command and Control (C2) Sys</i>

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

Line Item	FY 2011	FY 2012	FY 2013			FY 2014	FY 2015	FY 2016	FY 2017	Cost To	
			Base	OCO	Total					Complete	Total Cost
• PMC/474761: <i>IAS</i>	20.132	3.610	0.000	0.000	0.000	21.632	8.945	6.620	9.950	Continuing	Continuing
• PMC/474707: <i>RREP</i>	12.966	11.248	0.000	0.000	0.000	0.403	1.588	0.267	0.276	Continuing	Continuing
• PMC/474717: <i>IBR</i>	4.250	7.385	0.000	1.562	1.562	2.434	1.008	0.412	0.420	Continuing	Continuing
• PMC/474757: <i>JSTARS</i>	3.843	0.384	0.000	0.000	0.000	1.780	3.244	0.000	0.000	Continuing	Continuing
• PMC/474737: <i>SCI COMMS</i>	17.657	0.111	0.000	0.000	0.000	16.895	4.692	0.548	0.220	Continuing	Continuing
• PMC/474713: <i>TRSS</i>	10.249	14.576	0.000	0.000	0.000	13.701	11.323	7.543	3.908	Continuing	Continuing
• PMC/474727: <i>TPCS</i>	48.831	19.061	5.650	10.900	16.550	27.804	12.101	6.631	8.333	Continuing	Continuing
• PMC/474751: <i>WVPS</i>	4.652	1.992	0.000	0.000	0.000	10.652	8.844	0.093	0.097	Continuing	Continuing
• PMC/474719: <i>MSIDS</i>	16.565	10.477	0.000	6.380	6.380	9.320	7.025	4.896	8.071	Continuing	Continuing
• PMC/474759: <i>IER</i>	5.434	7.831	0.000	0.000	0.000	3.386	3.087	1.593	1.493	Continuing	Continuing
• PMC/474763: <i>CESAS</i>	2.167	0.000	0.000	0.000	0.000	2.272	10.261	3.550	7.320	Continuing	Continuing
• PMC/4747014: <i>JWICS</i>	7.108	10.762	1.816	12.432	14.248	6.155	4.391	3.413	3.482	Continuing	Continuing

D. Acquisition Strategy

(U) ACQUISITION STRATEGY GCCS-I3: This program promotes and ensures joint interoperability among all combatant commands for theater and national level common operational picture and integrated imagery and intelligence data in compliance with ICD 501. Engineering and technical support is provided to Program Manager, Intelligence, Data, Fusion and Dissemination (PM IDF&D) systems integration efforts for incorporation of the COE and GCCS-I3 software baseline. Integration is performed at the Integrated Team Solution Facility and SPAWAR. SPAWAR will be used as the hub for the majority of the integration effort of the GCCS-I3 initiative.

(U) ACQUISITION STRATEGY SCI COMMS: Procure and continuously improve USMC TROJAN SPIRIT systems to meet evolving Marine Corps operational needs while maintaining interoperability with the Army TROJAN Network and maintaining, as closely as practical, configuration common to the Army TROJAN SPIRIT systems.

(U) ACQUISITION STRATEGY TCAC: The acquisition of components for the TCAC will maximize the use of existing equipment, NDI/COTS/GFE equipment/software. The integration effort for TCAC hardware components will be accomplished under the control of the SSA, MCSC. Software integration and support will be accomplished by contractors under the control of the Project Officer. These activities report to and are directed by the PM IDF&D Systems, Marine Corps Systems Command (MARCORSYSCOM). Maintenance support will be managed by MARCORLOGBASES Albany and MCSC, with separate contractual agreements.

(U) ACQUISITION STRATEGY JSTARS: JSTARS will utilize ongoing Army JSTARS contracts for continue development of MTI and MTI Sensor capabilities as well as upgrades to the JSTARS Common Software baseline. Post Deployment Software Support (PDSS) will be provided through the Army Communications-Electronics

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206625M: <i>USMC Intelligence/Electronics Warfare Sys</i>	PROJECT 2272: <i>Intel Command and Control (C2) Sys</i>
<p>Command (CECOM), Ft Monmouth, NJ. Surveillance Control Data Link (SCDL) refresh efforts will conducted in conjunction with the Army JSTARS Program Office. Development of a Moving Target Indicator capability for integration into the Distributed Common Ground System-Marine Corps will continue through MTCSC.</p> <p>(U) ACQUISITION STRATEGY TRSS: The TRSS are typically Non-Developmental Item (NDI) integration efforts, making maximum use of the efforts of hardware and software initially developed by other DoD organizations and programs. The initial phases of each increment are cost-plus fixed-fee efforts, while the production phase, which encompasses the production, fielding, training and initial support of the systems, is firm-fixed price efforts.</p> <p>(U) ACQUISITION STRATEGY TPCS: TPCS, the ever-increasing sophistication of target threats and information technology necessitates an evolutionary acquisition approach. TPCS will make incremental improvements through maximum use of COTS, GOTS and NDI. These technology insertions and product improvements will ensure the Radio Battalions maintain cutting edge technologies and collection capabilities.</p> <p>(U) ACQUISITION STRATEGY WFVPS: Marine Corps Combat Development Command (MCCDC) maintains sponsorship of the Angel Fire Urgent Universal Needs Statement (UUNS). Marine Corps funds the development of the Ground Receive Station (GRS) for the Wide Focal Plane Array Camera (WFPAC) which is the next iteration of Angel Fire. Development, integration, interoperability and testing are divided between Marine Corps Systems Command (MCSC) as lead integrator, the Army Program Manger, Unmanned Aerial Systems (PM UAS), Naval Air Systems Command (NAVAIR), and Naval Research Laboratory (NRL).</p> <p>(U) ACQUISITION STRATEGY MSIDS: Research, test and integrate new technology to keep pace with the evolving Marine Corps operational needs. Acquisition will maximize the use of NDI/COTS hardware and software to ensure the supporting units maintain cutting edge technology and collection capabilities.</p> <p>(U) ACQUISITION STRATEGY IER: This program seeks to support a wide range of technology solutions based on the requests received from the Operating Forces and/or PM Intelligence Program of Record. The request must require solution evaluation beyond merely acquisition to be recommended as an Intelligence Systems Readiness (ISR) candidate. Each request will be validated by the ISR team and approved by the Project Officer and PM Intel before solution evaluation begins. The ISR program will use COTS/GOTS/NDI solutions to the greatest extent possible.</p> <p>(U) ACQUISITION STRATEGY IAS: The IAS program uses existing Government contracts for hardware and software development and integration. The system is comprised primarily of Commercial Off-the-Shelf (COTS) and Government Off-The-Shelf (GOTS) equipment. The IAS FoS utilizes an evolutionary strategy to ensure periodic incorporation of state-of-the-art technology that meets both current and future Marine Corps intelligence requirements while maintaining system readiness and reliability.</p> <p>(U) ACQUISITION STRATEGY RREP: Research, test, and integrate new technology to keep pace with the evolving Marine Corps operational needs. Acquisition will maximize the use of Non-Developmental Items (NDI)/Commercial Off-the-Shelf (COTS) and Government Off-The-Shelf (GOTS) hardware and software to ensure the supporting units maintain cutting edge technology and collection capabilities.</p> <p>(U) ACQUISITION STRATEGY CIHEP: The CIHEP program employs a block approach of refreshing. Each year all or a portion of several of the 12 CIHEP modules is refreshed. Refresh rates vary by equipment, at one extreme with cameras and computers being refreshed every third year, and at the other with lens, night visions,</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	PE 0206625M: <i>USMC Intelligence/Electronics Warfare Sys</i>	2272: <i>Intel Command and Control (C2) Sys</i>

and tactical radios being refreshed every seven years. CIHEP's block refresh approach facilitates the effective incorporation of technological advances and allows procurements to be evenly spread across the FYDP. To the maximum extent possible, existing contracts and relationships with other entities are leveraged to provide cost savings and capitalize on research and development already being done. Obsolescence will be addressed in the CIHEP Fielding Plans and In-Service Management Plans (ISMPs); the Program Office will use Defense Reutilization and Marketing Office procedures in order to extend the use of serviceable equipment throughout the Department of Defense (DoD) or other government agencies.

(U) ACQUISITION STRATEGY IBR: Existing external contract will be used for Common Interactive Broadcast (CIB) upgrade development and COMSEC upgrade integration for USB ENTR and Joint Tactical Terminal (JTT)- SR to meet DoD and NSA mandates for MIL-STD waveform integration and COMSEC modernization.

(U) ACQUISITION STRATEGY TENCAP: All work will be led in-house and necessary contractor support will be acquired using existing contracts. Research, test and integrate new technology and conduct advanced technology demonstrations to identify the most appropriate programs which are mature for integration of emerging technologies into the Marine Corps Intelligence, Surveillance, and Reconnaissance Enterprise (MCISR-E).

(U) ACQUISITION STRATEGY CESAS: CESAS continues to be a combination of evolutionary and incremental development. Cost savings will be optimized by designed open architecture of systems for rapid insertion of new technology, maintaining integration and production team relationships, leveraging off of cooperative service ventures and technology development.

E. Performance Metrics

N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206625M: <i>USMC Intelligence/Electronics Warfare Sys</i>	PROJECT 2272: <i>Intel Command and Control (C2) Sys</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
TENCAP	C/CPFF	ManTech:STAFFORD, VA	32.094	-		0.500	Apr 2013	-		0.500	0.000	32.594	
TPCS	C/CPFF	SPAWAR:CHARLESTON, SC	8.663	2.500	Mar 2012	2.927	Apr 2013	-		2.927	0.000	14.090	
TRSS	C/CPFF	L3 NOVA:CINCINNATI, OH	2.575	0.030	Dec 2011	-	Dec 2012	-		-	Continuing	Continuing	Continuing
TRSS	MIPR	ARL:ADELPHI, MD	0.966	0.300	Dec 2011	-		-		-	0.000	1.266	
TRSS	C/CPFF	ManTech:STAFFORD, VA	3.865	0.365	Feb 2012	0.310	Dec 2012	-		0.310	0.000	4.540	
SCI COMMS	MIPR	CECOM/WIN-T:FT. MONMOUTH, NJ	0.826	0.431	Apr 2012	-		-		-	0.000	1.257	
TCAC	C/CPFF	SPAWAR:CHARLESTON, SC	-	0.598	Dec 2011	0.439	Mar 2013	-		0.439	0.000	1.037	
IAS	C/CPFF	SPAWAR:CHARLESTON, SC	1.739	1.734	Feb 2012	1.079	Mar 2013	-		1.079	0.000	4.552	
CESAS	WR	NRL:ARLINGTON, VA	-	0.500	Dec 2011	-		-		-	0.000	0.500	
CESAS	C/CPFF	SPAWAR:CHARLESTON, SC	-	-		2.082	Apr 2013	-		2.082	0.000	2.082	
SCI COMMS	C/FFP	ManTech:STAFFORD, VA	-	-		1.195	Dec 2012	-		1.195	0.000	1.195	
TCAC	C/FFP	ManTech:STAFFORD, VA	-	0.598	Dec 2011	2.167	Nov 2012	-		2.167	0.000	2.765	
TCAC	C/FFP	NSWC CRANE:CRANE, IN	-	0.196	Jan 2012	0.800	Jan 2013	-		0.800	0.000	0.996	
WFVPS	C/CPFF	NRL:ARLINGTON, VA	-	0.256	Jun 2012	0.025	Feb 2013	-		0.025	0.000	0.281	
IER	C/CPFF	NRL:ARLINGTON, VA	-	-		2.243	Feb 2013	-		2.243	0.000	2.243	
TENCAP	C/CPFF	SPAWAR:CHARLESTON, SC	-	-		1.500	Jan 2013	-		1.500	0.000	1.500	
IBR	C/CPFF	ManTech:STAFFORD, VA	-	0.421	Dec 2011	0.113	Dec 2012	-		0.113	0.000	0.534	
Subtotal			50.728	7.929		15.380		-		15.380			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206625M: <i>USMC Intelligence/Electronics Warfare Sys</i>	PROJECT 2272: <i>Intel Command and Control (C2) Sys</i>
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Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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	
TRSS	C/CPFF	ManTech:STAFFORD, VA	12.896	0.307	Feb 2012	0.600	Feb 2013	-		0.600	Continuing	Continuing	Continuing
MSIDS	Various	VAR:VAR	0.537	0.288	Nov 2011	0.379	Nov 2012	-		0.379	0.000	1.204	
CIHEP	WR	SPAWAR:CHARLESTON, SC	0.383	0.067	Mar 2012	0.092	Apr 2013	-		0.092	Continuing	Continuing	Continuing
IAS	C/CPFF	SPAWAR:CHARLESTON, SC	10.411	1.750	Jan 2012	0.856	Mar 2013	-		0.856	0.000	13.017	
IBR	C/CPFF	ManTech:STAFFORD, VA	1.559	0.160	Dec 2011	0.063	Dec 2012	-		0.063	0.000	1.782	
IER	Various	VAR:VAR	1.933	2.323	May 2012	-		-		-	0.000	4.256	
JSTARS	C/CPFF	ManTech:STAFFORD, VA	0.721	-		0.431	Dec 2012	-		0.431	0.000	1.152	
RREP	C/FFP	NSWC:CRANE, IN	0.742	0.240	Jan 2012	0.369	Dec 2012	-		0.369	0.000	1.351	
RREP	C/CPFF	ManTech:STAFFORD, VA	0.743	0.501	Dec 2011	0.508	Nov 2012	-		0.508	0.000	1.752	
RREP	C/FFP	MCSC:QUANTICO, VA	0.140	0.090	Feb 2012	0.250	Feb 2013	-		0.250	0.000	0.480	
WFVPS	C/CPFF	LANL:LOS ALAMOS, NM	0.488	-		-		-		-	0.000	0.488	
TCAC	C/CPFF	ManTech:STAFFORD, VA	-	0.545	Dec 2011	1.100	Dec 2012	-		1.100	0.000	1.645	
IER	C/CPFF	ManTech:STAFFORD, VA	-	0.200	Mar 2012	-		-		-	0.000	0.200	
IAS	C/CPFF	ManTech:STAFFORD, VA	-	0.464	Dec 2011	0.200	Dec 2012	-		0.200	0.000	0.664	
CIHEP	C/CPFF	ManTech:STAFFORD, VA	-	0.066	Nov 2011	0.093	Nov 2012	-		0.093	Continuing	Continuing	Continuing
CESAS	WR	SPAWAR:CHARLESTON, SC	-	-		0.500	Jan 2013	-		0.500	0.000	0.500	
WFVPS	MIPR	SMDC:HUNTSVILLE, AL	-	0.178	Jun 2012	-		-		-	0.000	0.178	
TPCS	WR	SPAWAR:CHARLESTON, SC	1.650	0.721	Feb 2012	0.731	Feb 2013	-		0.731	0.000	3.102	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206625M: <i>USMC Intelligence/Electronics Warfare Sys</i>	PROJECT 2272: <i>Intel Command and Control (C2) Sys</i>
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Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total				
Cost Category Item	Contract Method & Type	Performing Activity & 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			32.203	7.900		6.172		-		6.172				

Remarks
 TCAC - Various CPFF will award as various direct cites and work requests
 RREP - Various will award as various direct cites and work requests.

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
TRSS	Various	MCOTEA:QUANTICO, VA	0.672	0.350	Jan 2012	0.150	Jan 2013	-		0.150	Continuing	Continuing	Continuing	
TPCS	Various	MCOTEA:QUANTICO, VA	1.637	0.300	Mar 2012	-		-		-	0.000	1.937		
TPCS	C/CPFF	SPAWAR:CHARLESTON, SC	-	1.672	Mar 2012	0.639	Mar 2013	-		0.639	0.000	2.311		
CESAS	C/CPFF	SPAWAR:CHARLESTON, SC	-	-		0.625	Mar 2013	-		0.625	0.000	0.625		
Subtotal			2.309	2.322		1.414		-		1.414				

Remarks
 (TRSS)- MCOTEA to award in various methods, ie. CPFF, FFP
 (TPCS)- MCOTEA to award in various methods, ie. CPFF, FFP

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		85.240	18.151		22.966		-	22.966			

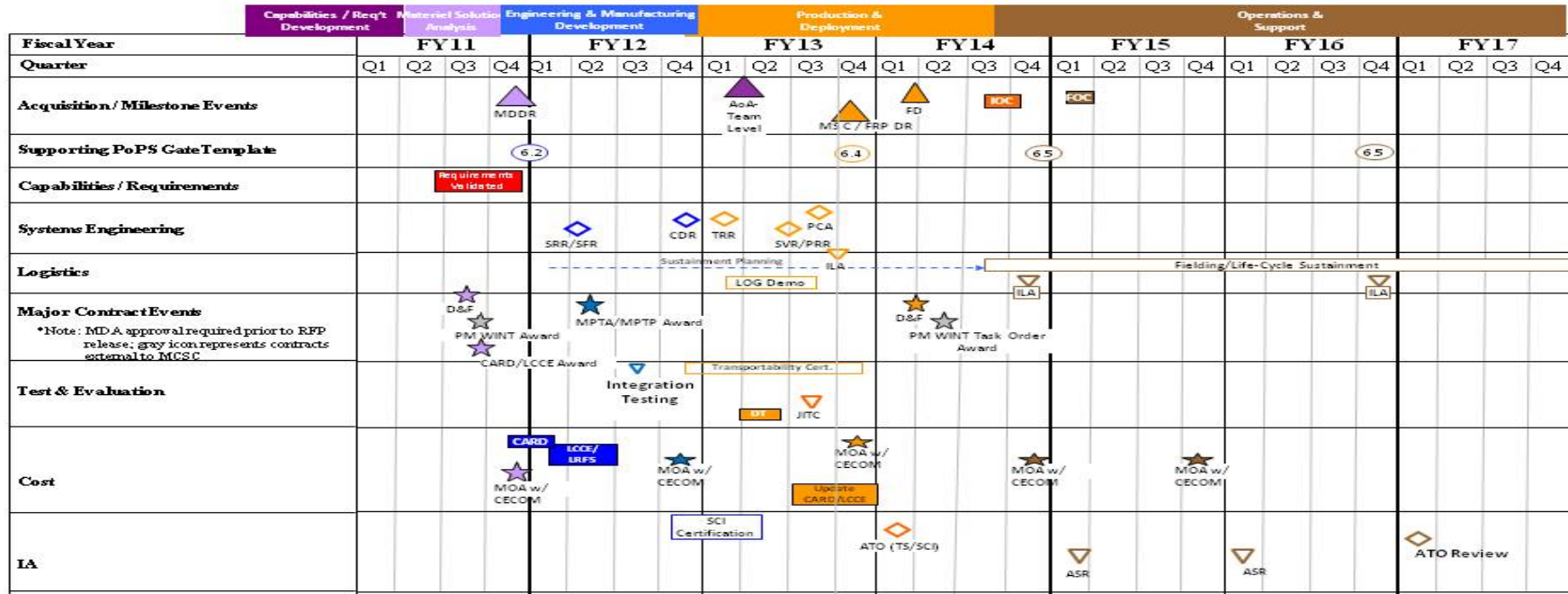
Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0206625M: USMC Intelligence/Electronics Warfare Sys	PROJECT 2272: Intel Command and Control (C2) Sys



SCI COMMS Program Schedule



APPROPRIATION/BUDGET ACTIVITY

1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

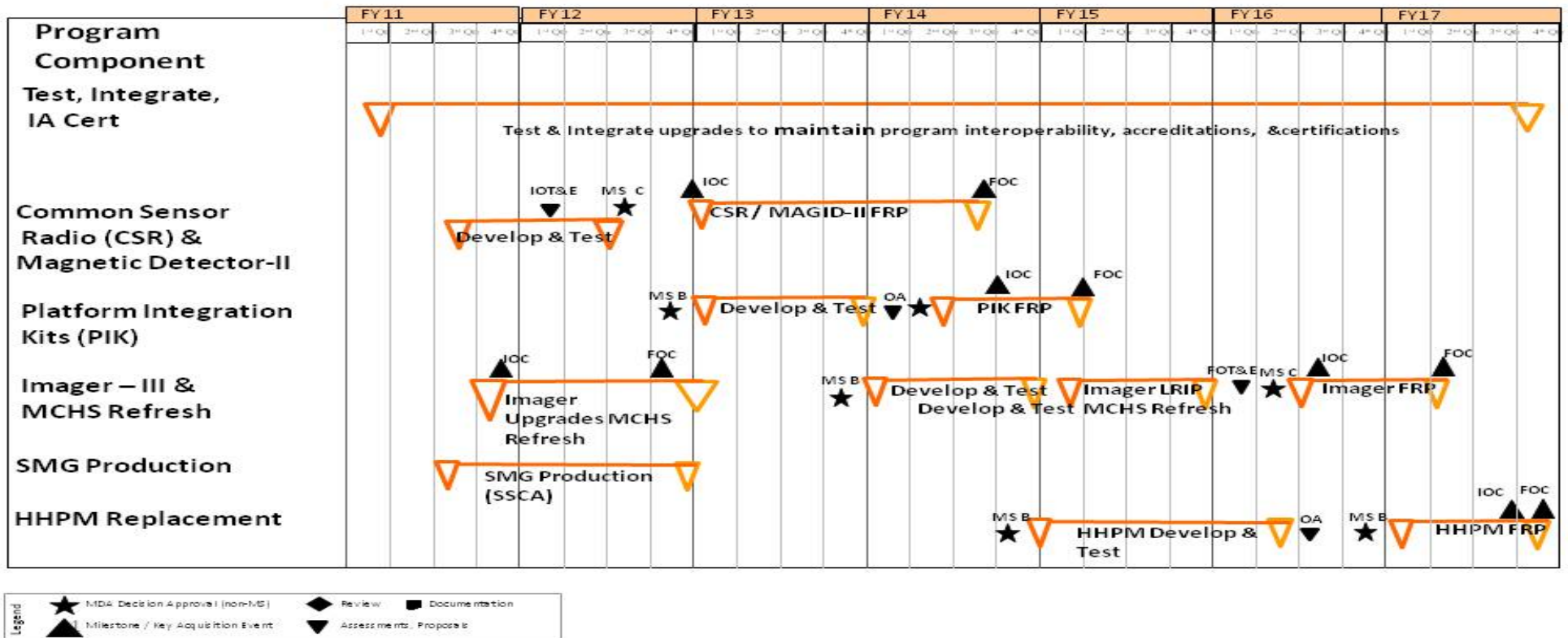
R-1 ITEM NOMENCLATURE

PE 0206625M: USMC Intelligence/Electronics Warfare Sys

PROJECT

2272: Intel Command and Control (C2) Sys

TRSS Acquisition Schedule



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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy

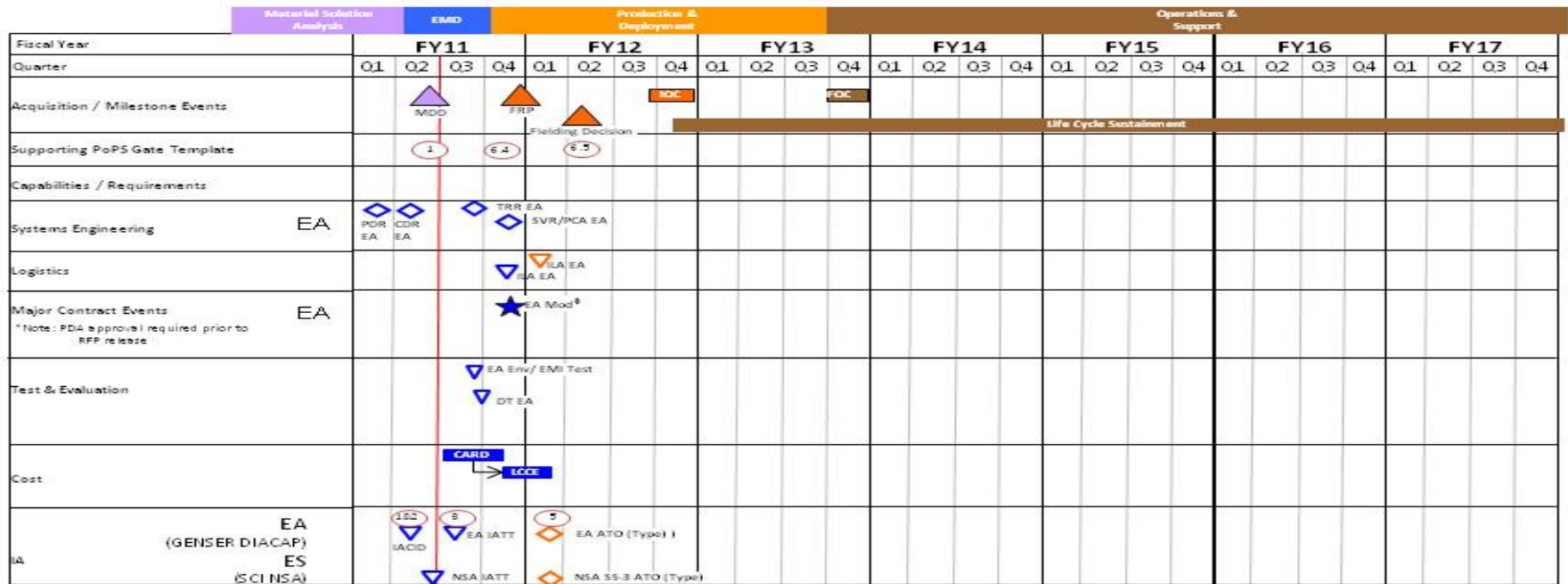
DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0206625M: USMC Intelligence/Electronics Warfare Sys

PROJECT
 2272: Intel Command and Control (C2) Sys

RREP Program Schedule

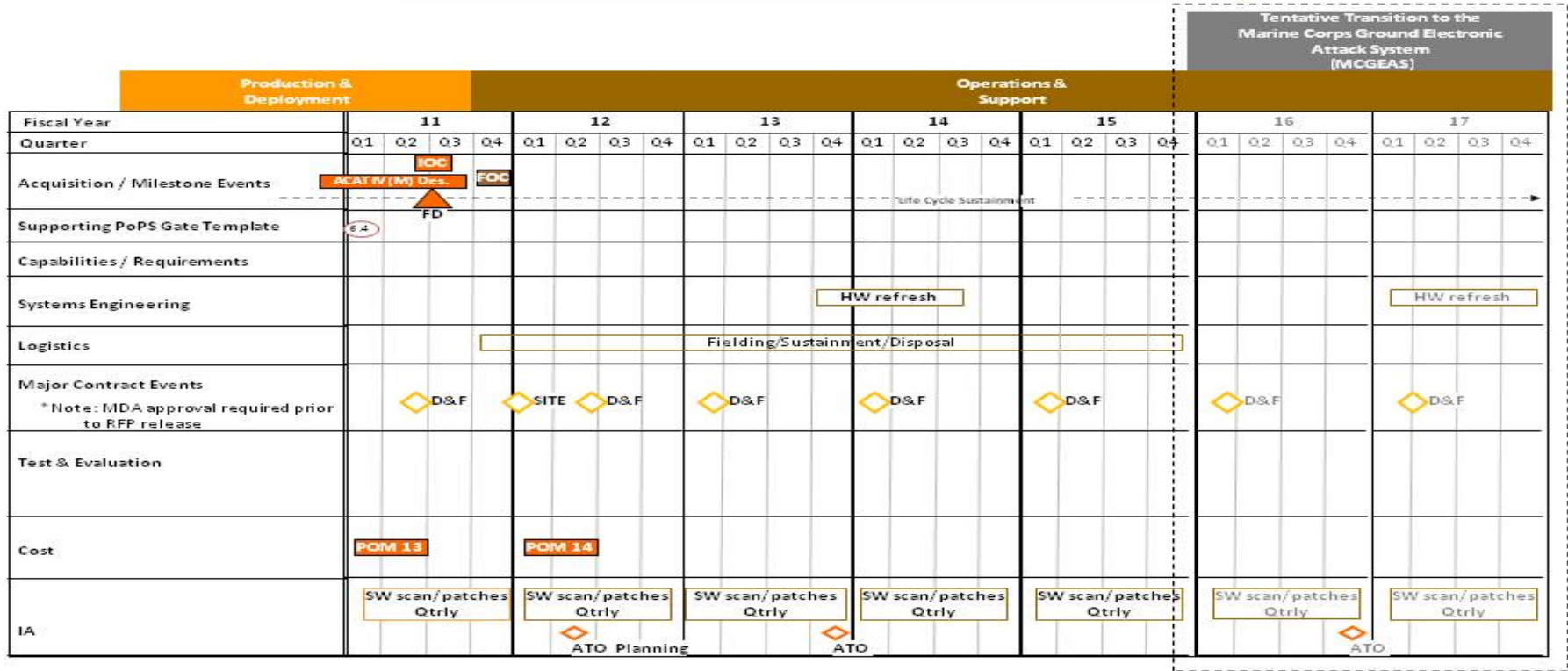


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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206625M: <i>USMC Intelligence/Electronics Warfare Sys</i>	PROJECT 2272: <i>Intel Command and Control (C2) Sys</i>

Communication Emitter Sensing and Attacking System

Program Schedule



Legend	★ MDA Decision Approval (non-MSE)	◆ Review	■ Documentation
	▲ Milestone / Key Acquisition Event	▼ Assessments, Proposals	

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy

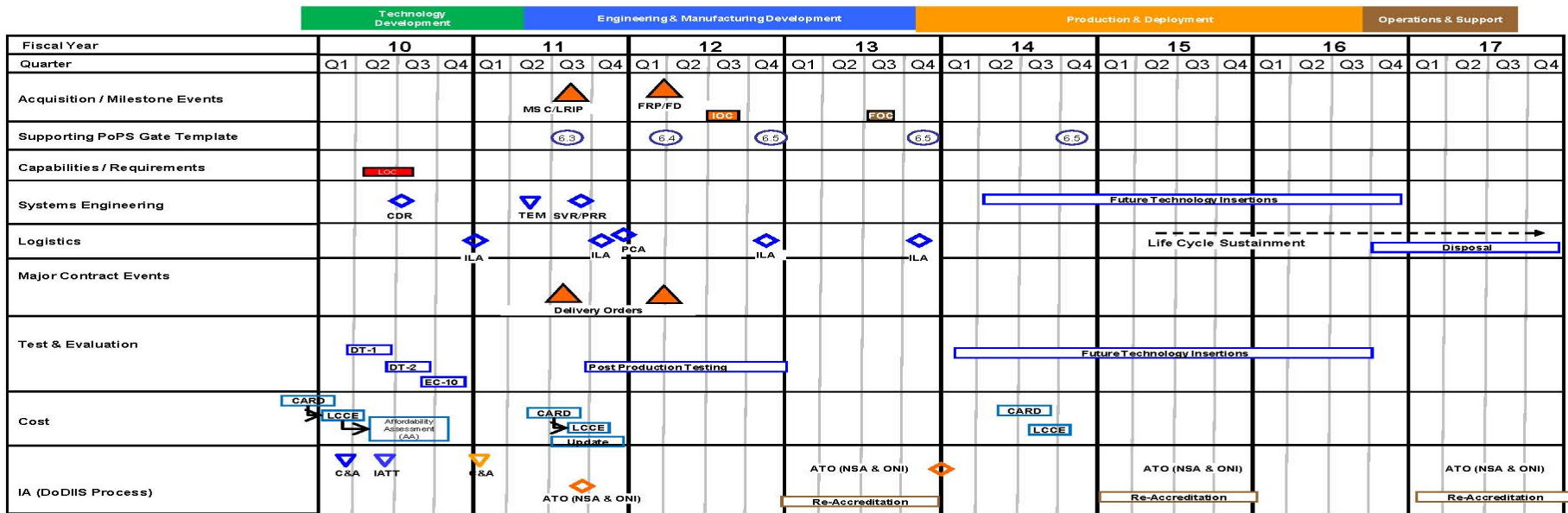
DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0206625M: USMC Intelligence/Electronics Warfare Sys

PROJECT
 2272: Intel Command and Control (C2) Sys

TPCS Mods Program Schedule



- Legend
- ★ MDA Decision Approval (non-MS)
 - ▲ Milestone / Key Acquisition Event
 - ◇ Review
 - ▽ Assessments, Proposals
 - Documentation

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 7: Operational Systems Development	R-1 ITEM NOMENCLATURE PE 0206625M: USMC Intelligence/Electronics Warfare Sys	PROJECT 2272: Intel Command and Control (C2) Sys

MARINE CORPS SYSTEMS COMMAND

EQUIPPING THE WARFIGHTER TO WIN

IAS FoS Program Schedule



Fiscal Year	10				11				12				13				14				15				16				17							
Quarter	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	Q1	Q2	Q3	Q4				
Tier I Hardware	Life Cycle Sustainment Tier I																																			
MEF IAS																																				
Acquisition / Milestone Events																																				
Contract Award																																				
Capabilities / Requirements																																				
Tier II Hardware	Life Cycle Sustainment Tier II																																			
IS-WIS-U																																				
Acquisition / Milestone Events																																				
Contract Award																																				
Capabilities / Requirements																																				
Tier III Hardware	Life Cycle Sustainment Tier II																																			
IW																																				
Acquisition / Milestone Events																																				
Contract Award																																				
Capabilities / Requirements																																				

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206625M: <i>USMC Intelligence/Electronics Warfare Sys</i>	PROJECT 2272: <i>Intel Command and Control (C2) Sys</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2272				
TPCS MODS MS -C/LRIP	3	2011	3	2011
TPCS MODS FRP/FD	2	2012	2	2012
TPCS MODS IOC	3	2012	3	2012
TPCS MODS FOC	3	2013	3	2013
TCAC FoS Refresh IOC	4	2011	4	2011
TCAC FoS Refresh FOC	1	2013	1	2013
TCAC 5.0 MS B	4	2013	4	2013
TCAC 5.0 MS C	3	2014	3	2014
IAS Tier I CDR	3	2011	3	2011
IAS Tier I TRR	4	2011	4	2011
IAS Tier I SVR	4	2011	4	2011
IAS Tier I PCA	1	2012	1	2012
IAS Tier II CDR	1	2014	1	2014
IAS Tier II SVR	3	2014	3	2014
IAS Fielding Decision	4	2012	4	2012
IAS Tier II Fielding Decision	2	2015	2	2015
IAS Tier III CDR	1	2013	1	2013
IAS Tier III SVR	3	2013	3	2013
IAS Tier III Fielding Decision	1	2014	1	2014
RREP MDD	2	2011	2	2011
RREP FRP	4	2011	4	2011

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0206625M: <i>USMC Intelligence/Electronics Warfare Sys</i>	PROJECT 2272: <i>Intel Command and Control (C2) Sys</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
RREP PDR	1	2011	1	2011
RREP CDR	2	2011	2	2011
RREP Fielding Decision	2	2012	2	2012
RREP IOC	4	2012	4	2012
RREP FOC	4	2013	4	2013
CESAS Fielding Decision	3	2011	3	2011
CESAS IOC	3	2011	3	2011
CESAS FOC	4	2011	4	2011
SCI COMMS AoA Team Level	1	2013	1	2013
SCI COMMS CDR	4	2012	4	2012
SCI COMMS MS C	4	2013	4	2013
SCI COMMS IOC	3	2014	3	2014
SCI COMMS FOC	1	2015	1	2015
TRSS Monitor System Upgrade (Fielding Decision)	2	2013	2	2013
TRSS Monitor System Upgrade IOC/FOC	3	2013	4	2013
TRSS PIK IOC	4	2014	4	2014

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0207161N: <i>Tactical Aim Missiles</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	0.906	8.765	21.107	-	21.107	29.441	58.084	61.986	58.040	Continuing	Continuing
0457: <i>AIM-9X</i>	0.906	8.765	11.224	-	11.224	6.812	6.668	0.736	0.772	Continuing	Continuing
0458: <i>AIM-9X Block III</i>	-	-	9.883	-	9.883	22.629	51.416	61.250	57.268	Continuing	Continuing

Note

A new Project Unit was established for Block III.

A. Mission Description and Budget Item Justification

The AIM-9X Sidewinder short-range air-to-air missile is a long term evolution of the AIM-9 series of fielded missiles. The AIM-9X missile program provides a launch and leave, air combat munition that uses passive infrared (IR) energy for acquisition and tracking of enemy aircraft and complements the Advanced Medium Range Air-to-Air Missile. Air superiority in the short-range air-to-air missile arena is essential and includes first shot, first kill opportunity against an enemy employing IR countermeasures. The AIM-9X employs several components common with the AIM-9M (fuze, rocket motor and warhead). Anti-Tamper features have been incorporated to protect improvements inherent in this design. AIM-9X is a Post Milestone III, Acquisition Category IC joint service program with Navy lead.

The Block II program has entered into Low Rate Initial Production (LRIP) with the Lot 11 (Block II LRIP 1) contract awarded in September 2011, and Lot 12 (Block II LRIP 2) awarded in December 2011. This budget line item will fund the remaining development, test and integration of software updates to the missile and aircraft platform integration to ensure these capabilities perform in accordance with established requirements.

The AIM-9X Block III builds upon the incremental acquisition strategy used to develop AIM-9X Block I and Block II to provide increased kinematics, lethality, enhanced IR Counter-Measure performance against emerging advanced threats, and improved Insensitive Munitions performance and will employ several components common with the AIM-9X Block II (advanced seeker, Advanced Optical Target Detector / datalink).

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0207161N: <i>Tactical Aim Missiles</i>
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B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	0.912	8.765	4.980	-	4.980
Current President's Budget	0.906	8.765	21.107	-	21.107
Total Adjustments	-0.006	-	16.127	-	16.127
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.001	-			
• Program Adjustments	-	-	16.101	-	16.101
• Rate/Misc Adjustments	-	-	0.026	-	0.026
• Congressional General Reductions Adjustments	-0.005	-	-	-	-

Change Summary Explanation

Technical: Not applicable.

Schedule:

Nomenclature has been revised to reflect terminology consistent with Milestones A,B and C vice older Milestone I, II, and III terms, as follows: From IT-IIID to IT-B1, from OT-IIID to OT-C1.

Blk II successfully completed a Milestone-C decision on 24 June 2011, therefore the following Contract Lots have been revised: From Lot 11 to Blk II LRIP 1, from Lot 12 to Blk II LRIP 2, from Lot 13 to Blk II LRIP 3, from Lot 14 to Blk II FRP 1, from Lot 15 to Blk II FRP 2, from Lot 16 to Blk II FRP 3.

Completion of DT-B1 (previously DT-IIID) has been extended from 1st Qtr FY 2011 to 2nd Qtr FY 2012 to accomodate the software development schedule.

Requirement no longer exists for Blk II Operational Test All-Up-Round (OT-IIIC)(2) beginning 1st Qtr 2012; event has been removed. The AIM-9X with 9.2 software enables evolutionary transition to Blk II (e.g. develop AIM-9X hardware but re-host Baseline software). With the added acquisition requirement to establish a separate program for Block II (AIM-9X hardware with OFS 9.3 software) there is no longer a requirement to field AIM-9X All-Up-Round hardware with 9.2.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0207161N: <i>Tactical Aim Missiles</i>	PROJECT 0457: <i>AIM-9X</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
0457: <i>AIM-9X</i>	0.906	8.765	11.224	-	11.224	6.812	6.668	0.736	0.772	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

AIM-9X (Sidewinder) is a long-term evolution of the AIM-9, a fielded system, qualifying this as a research category operational systems development. The AIM-9X short range Air-to-Air missile modification program provides a launch and leave, air combat munition that uses passive infrared (IR) energy for acquisition and tracking of enemy aircraft and complements the Advanced Medium Range Air-to-Air Missile. Air superiority in the short range Air-to-Air Missile arena is essential and includes first shot, first kill opportunity against an enemy employing IR countermeasures. The AIM-9X employs several components common with the AIM-9M (fuze, rocket motor and warhead).

Milestone C decision for Low Rate Initial Production (LRIP) was held on June 24th 2011, and the program has entered into LRIP contracts for Block II in FY 2011 and FY 2012. The program will enter the final LRIP in FY 2013, followed by Block II FRP in FY 2014 and beyond.

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

	FY 2011	FY 2012	FY 2013
Title: Continued Test and Evaluation of System	0.101	4.628	4.490
Articles:	0	0	0
Description: Funding required for Test & Evaluation and associated Governmental support required to ensure the AIM-9X missile integration with threshold US Navy aircraft platforms.			
FY 2011 Accomplishments: Completed Operational Testing of missile software rehosting into the Pre-Planned Product Improvements that resolved obsolescence associated with the Computer Processor Unit on the Captive Air Training Missile. In support of MS-C, the program successfully completed an Operational Assessment of the performance requirements defined in the Capability Production Document. Program is executing Developmental Test and Integration.			
FY 2012 Plans: Complete final phase of Operational Testing of missile software rehosting into new AIM-9X components. Complete Integrated (Development and Operational) Testing and begin Operational Testing of the follow on missile software (v9.3) for the AIM-9X missile integration.			
FY 2013 Plans: Continued Operational testing.			
Title: Continued Product Development	0.649	4.000	6.310

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0207161N: <i>Tactical Aim Missiles</i>	PROJECT 0457: <i>AIM-9X</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
Articles:		0	0	0
<p>Description: Continuation of Primary Hardware Development/Pre-Planned Product Improvement efforts for the AIM-9X fuze. Includes Systems Engineering / Program management, as well as support required to ensure AIM-9X missile integration with threshold US Navy aircraft platforms. Includes efforts to update missile components in order to comply with Insensitive Munitions requirements as established by Joint Requirements Oversight Council memo dated 11 February 2009.</p> <p>FY 2011 Accomplishments: Continued refinement of v9.3 Software Algorithm and Code Development in support of the AIM-9X missile testing and integration effort with threshold US Navy aircraft platforms.</p> <p>FY 2012 Plans: Continued refinement of v9.3 Software Algorithm and Code Development in support of the AIM-9X missile testing and integration effort with threshold US Navy aircraft platforms, as well as study insensitive munitions alternatives and risk reduction methods.</p> <p>FY 2013 Plans: Continued support of AIM-9X Block II integration. Study insensitive munitions alternatives and risk reduction methods. Continued support of Operational Test anomaly resolution.</p>				
Title: Continued Transportation & Travel for Program Management		0.156	0.137	0.124
Articles:		0	0	0
<p>Description: Transportation / Travel for AIM-9X effort.</p> <p>FY 2011 Accomplishments: Continued transportation and travel costs associated with supporting the AIM-9X missile program.</p> <p>FY 2012 Plans: Continue transportation and travel costs associated with supporting the AIM-9X missile program.</p> <p>FY 2013 Plans: Continue transportation and travel costs associated with supporting the AIM-9X missile program.</p>				
Title: Support		-	-	0.300
Articles:				0
<p>Description: Studies and Analysis</p> <p>FY 2013 Plans:</p>				

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0207161N: <i>Tactical Aim Missiles</i>	PROJECT 0457: <i>AIM-9X</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Studies and analysis in support of Advanced Development of AIM-9X Sidewinder.			
Accomplishments/Planned Programs Subtotals	0.906	8.765	11.224

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

Line Item	FY 2011	FY 2012	FY 2013	FY 2013	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Cost To	
			Base	OCO	Total					Complete	Total Cost
• WPN 2209: <i>Sidewinder</i>	49.116	42.198	80.226	0.000	80.226	88.262	88.350	89.524	96.088	1,331.573	2,241.508
• MPAF 3479: <i>Sidewinder</i>	64.166	88.769	88.020	0.000	88.020	82.729	131.786	85.401	86.706	1,887.298	3,003.002
• RDTE, AF 41: <i>Sidewinder</i>	5.834	8.023	8.234	0.000	8.234	9.675	10.775	12.971	13.143	9.859	346.154

D. Acquisition Strategy

The Low Rate Initial Production (LRIP), LOT 4, Firm-Fixed-Price (FFP) contract was awarded in April 2004. Assistant Secretary of the Navy for (Research Development & Acquisitions) approved the Full-Rate Production (FRP) decision in May 2004. FRP 1, LOT 5 contract was awarded November 2004. FRP 1, LOT 5 through FRP 3 LOT 7 contracts were awarded November 2006. Rewards or penalties are provided depending on Raytheon Missile Systems Performance relative to the Procurement Price Commitment Curve (PPCC) for LOTs 5 through 7 (FY 2005 through FY 2007). FRP 4 LOT 8 (FY 2008) contract was re-negotiated outside of the PPCC, and was awarded in January 2008. The FRP 5 LOT 9 (FY 2009) contract was awarded in June 2009, and incorporated the new electronics unit into the Captive Air Training Missile resolving critical obsolescence issues, as well as a low quantity of test articles to prove out the capability and producibility of the AIM-9X missile. The FRP 6 Lot 10 (FY 2010) contract was awarded in June 2010 to procure Block I All Up Round missiles as well as additional tactical test articles.

Block II: Milestone C decision for LRIP was held on June 24th 2011, and the program has entered into LRIP contracts for Block II in FY 2011 and FY 2012. The program will enter the final LRIP in FY 2013, followed by Block II full rate production (FRP) in FY 2014 and beyond.

E. Performance Metrics

The AIM-9X Sidewinder program is meeting the cost, schedule, performance, funding and life cycle sustainment in accordance with the Acquisition Program Baseline. Contractor is meeting production schedule.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0207161N: <i>Tactical Aim Missiles</i>	PROJECT 0457: <i>AIM-9X</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 (Navy Fuze/OFS)	C/CPIF	Raytheon Missile Systems:Tucson, AZ	3.100	-		-		-		-	0.000	3.100	3.100
Primary Hdw Development (Fuze P3I)	SS/CPFF	Raytheon Missile Systems:Tucson, AZ	14.290	-		-		-		-	0.000	14.290	14.290
Aircraft Integration	C/CPFF	Boeing:St. Louis, MO	6.996	-		2.488	Dec 2012	-		2.488	4.860	14.344	14.344
Aircraft Integration	WR	NAWCWD:China Lake, CA	4.087	-		2.233	Nov 2012	-		2.233	Continuing	Continuing	Continuing
Munition Improvement Study	SS/CPFF	Raytheon Missile Systems:Tucson, AZ	-	1.000	Mar 2012	-		-		-	1.000	2.000	2.000
Systems Engineering	WR	NAWCWD:China Lake, CA	37.181	3.000	Nov 2011	1.589	Nov 2012	-		1.589	Continuing	Continuing	Continuing
All Prod Dev Cost from program implementation through FY 2002	Various	Not Specified:Not Specified	192.904	-		-		-		-	0.000	192.904	
Subtotal			258.558	4.000		6.310		-		6.310			

Remarks
Total prior years - FY95 and prior under PE 0603715D. FY12 and FY13 funds warhead improvements to comply with insensitive munitions requirements.

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 & Analyses	C/CPFF	NSMA:Arlington, VA	-	-	Feb 2012	0.300	Feb 2013	-		0.300	Continuing	Continuing	Continuing
Subtotal			-	-		0.300		-		0.300			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0207161N: <i>Tactical Aim Missiles</i>	PROJECT 0457: <i>AIM-9X</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 (WD)	WR	NAWC WD:China Lake, CA	29.914	-		-		-		-	0.000	29.914	
Navy Test & Eval (Govt Op Test - WD)	WR	NAWC WD:China Lake, CA	0.814	0.615	Nov 2011	1.554	Nov 2012	-		1.554	Continuing	Continuing	Continuing
Navy Test & Eval (Cont Dev Test)	SS/CPFF	Raytheon Missile Systems:Tucson, AZ	0.210	3.998	Mar 2012	-		-		-	0.000	4.208	4.208
Oper Test & Eval (OPTEVFOR)	WR	OPTEVFOR:Norfolk, VA	2.861	0.015	Nov 2011	0.050	Oct 2012	-		0.050	Continuing	Continuing	Continuing
All Prod Dev Cost from Program Implementation thru FY2002	Various	Various:Various	4.927	-		-		-		-	0.000	4.927	
System Improvement Process	SS/CPFF	Raytheon Missile Systems:Tucson, AZ	-	-		2.886	Dec 2012	-		2.886	4.624	7.510	7.510
Subtotal			38.726	4.628		4.490		-		4.490			

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Transportation - Material	WR	NAVAIR:Patuxent River, MD	0.086	0.016	Nov 2011	0.050	Nov 2012	-		0.050	Continuing	Continuing	Continuing
Travel - Obligation throughout the year	WR	NAWCAD:Patuxent River, MD	2.412	0.121	Oct 2011	0.074	Oct 2012	-		0.074	Continuing	Continuing	Continuing
Management & Support Services	C/CPFF	Jorge Corporation:Lexington Park, MD	0.507	-		-		-		-	Continuing	Continuing	Continuing
All Prod Dev Cost from Program Implementation thru FY2002	Various	Various:Various	7.526	-		-		-		-	0.000	7.526	
Subtotal			10.531	0.137		0.124		-		0.124			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0207161N: <i>Tactical Aim Missiles</i>	PROJECT 0457: <i>AIM-9X</i>
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	Total Prior Years Cost	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	307.815	8.765	11.224	-	11.224			

Remarks

Breakout of Block I and Block II costs:

USN	Prior Yrs	FY12	FY13	FY14	FY15	FY16	FY17
Block I	281,425						
Block II	26,390	8,765	11,224	6,812	6,668	736	772
Total	307,815	8,765	11,224	6,812	6,668	736	772

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0207161N: <i>Tactical Aim Missiles</i>	PROJECT 0457: <i>AIM-9X</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
TACTICAL AIM MISSILES Block I & II				
Acquisition Milestone - Block II: Milestone C	3	2011	3	2011
T&E Milestones - Block II: Development Test: v9.3 Development Test (DT-B1)	1	2011	2	2012
T&E Milestones - Block II: Operational Test: v9.2 Operational Test CATM (OT-IIIIC)	1	2011	1	2011
T&E Milestones - Block II: Operational Test: v9.3 Integrated Development/Operational Test (IT-B1)	1	2011	2	2012
T&E Milestones - Block II: Operational Test: v9.3 Operational Test (OT-C1)	3	2012	3	2013
Production Milestones - Block II: Contract Awards: Low Rate Initial Production (LRIP 1) Award	4	2011	4	2011
Production Milestones - Block II: Contract Awards: Low Rate Initial Production (LRIP 2) Award	1	2012	1	2012
Production Milestones - Block II: Contract Awards: Low Rate Initial Production (LRIP 3) Award	2	2013	2	2013
Production Milestones - Block II: Contract Awards: Full Rate Production (FRP 1) Award	2	2014	2	2014
Production Milestones - Block II: Contract Awards: Full Rate Production (FRP 2) Award	2	2015	2	2015
Production Milestones - Block II: Contract Awards: Full Rate Production (FRP 3) Award	2	2016	2	2016
Production Deliveries: Full Rate Production Deliveries Lot 9	1	2011	4	2011
Production Deliveries: Full Rate Production Deliveries Lot 10	1	2012	4	2012
Production Deliveries: Low Rate Initial Production Lot 11 / LRIP 1	4	2012	4	2013
Production Deliveries: Low Rate Initial Production Lot 12 / LRIP 2	4	2013	4	2014
Production Deliveries: Low Rate Initial Production Lot 13 LRIP 3	4	2014	4	2015
Production Deliveries: Full Rate Production Lot 14 FRP 1	4	2015	4	2016
Production Deliveries: Full Rate Production Lot 15 FRP 2	4	2016	4	2017

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0207161N: <i>Tactical Aim Missiles</i>	PROJECT 0457: <i>AIM-9X</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Production Deliveries: Full Rate Production Lot 16 FRP 3	4	2017	4	2017

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0207161N: <i>Tactical Aim Missiles</i>	PROJECT 0458: <i>AIM-9X Block III</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
0458: <i>AIM-9X Block III</i>	-	-	9.883	-	9.883	22.629	51.416	61.250	57.268	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The AIM-9X Block III builds upon the incremental acquisition strategy used to develop AIM-9X Block I and Block II to provide increased kinematics, lethality, enhanced Infrared Counter-Measure performance against emerging advanced threats, and improved Insensitive Munitions performance and will employ several components common with the AIM-9X Block II (e.g. advanced seeker, Advanced Optical Target Detector / datalink). This budget line item will fund the technology risk reduction, software development, hardware development, insensitive munitions improvements, test, and aircraft platform integration of AIM-9X Block III to ensure these capabilities perform in accordance with established requirements. An AIM-9X Block III risk reduction effort will mature the program for an FY16 Engineering and Manufacturing Development (EMD) start. Risk reduction and EMD programs also comply with and address the Joint Requirements Oversight Council Memorandum Insensitive Munitions direction (11 Feb 09) for AIM-9X IM technology insertion. Applicable anti-tamper features already incorporated in the existing AIM-9X Block II to protect improvements inherent in design will be brought forward for AIM-9X Block III.

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

	FY 2011	FY 2012	FY 2013
<p>Title: New Product Development</p> <p align="right">Articles:</p> <p>Description: Funding required to establish the AIM-9X Block III Integrated Product Team (IPT) which will develop program technology development strategy, develop draft acquisition program baseline, refine program requirements, identify best value preferred system concept, and commence competitive prototyping with associated technology risk reduction.</p> <p>FY 2013 Plans: Establish AIM-9X Block III IPT. Complete the Counter-Air Weapons Study Analysis of Alternatives, conduct Alternative System Review and select best value preferred material solution alternative. Develop draft program Technology Development Strategy (TDS), Capabilities Description Document (CDD), and Acquisition Program Baseline (APB). Commence early science and technology risk reduction activities to mature common technological components required for rocket motor, warhead, and insensitive munitions enabling technologies. Complete Milestone A with approved TDS, draft CDD, and APB. Award contracts / task orders for development of competitive prototypes for AIM-9X Block III. Conduct System Requirements Review to refine draft CDD and program requirements.</p>	-	-	9.501 0
<p>Title: Transportation & Travel for Program Management</p> <p align="right">Articles:</p> <p>FY 2013 Plans:</p>	-	-	0.039 0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0207161N: <i>Tactical Aim Missiles</i>	PROJECT 0458: <i>AIM-9X Block III</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Transportation and travel costs associated with supporting the AIM-9X Blk III missile program.			
Title: Support	-	-	0.343
Articles:			0
FY 2013 Plans: Management and support services associated with AIM-9X Sidewinder Blk III.			
Accomplishments/Planned Programs Subtotals	-	-	9.883

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

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• ONR: FNC: <i>Sidewinder</i>	0.000	0.000	7.599	0.000	7.599	13.439	18.868	17.004	8.090	0.000	65.000

D. Acquisition Strategy

AIM-9X Block III plans to conduct a Milestone Decision Directive Defense Acquisition Board Milestone Decision Authority concurrence on the program's entry into the acquisition framework and acquisition strategy. Competitive prototyping will occur from mid FY 2013 to early FY 2015. In FY 2015, the program will downselect to a single AIM-9X Block III primary system design, which will be used for final technology development in preparation for Milestone B. Common core technologies for AIM-9X Block III will also be developed during the 2013-2015 Technology Development Phase culminating in AIM-9X Block III Milestone B in FY 2016 for entry into Engineering and Manufacturing Development. AIM-9X Block III will be managed as a separate program by PMA-259.

E. Performance Metrics

AIM-9X Block III supporting technologies and best value preferred system concept will be developed to meet minimum system requirements that will be defined in a draft AIM-9X Block III Capabilities Description Document and draft program Acquisition Program Baseline which will be established by FY 2013.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0207161N: <i>Tactical Aim Missiles</i>	PROJECT 0458: <i>AIM-9X Block III</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Blk III Primary Hdw Development #1	C/CPFF	TBD:TBD	-	-		3.802	Feb 2013	-		3.802	11.200	15.002	15.002
Blk III Primary Hdw Development #2	C/CPFF	TBD:TBD	-	-		3.802	Feb 2013	-		3.802	11.200	15.002	15.002
Blk III Systems Engineering	WR	NAWCWD:China Lake, CA	-	-		0.897	Nov 2012	-		0.897	Continuing	Continuing	Continuing
Blk III Munition Improvement Study	SS/CPFF	Raytheon Missile Systems:Tucson, AZ	-	-		0.600	Nov 2012	-		0.600	1.400	2.000	2.000
Blk III Gov't Engineering Support	WR	NAWCAD:Patuxent River, MD	-	-		0.400	Nov 2012	-		0.400	Continuing	Continuing	Continuing
Subtotal			-	-		9.501		-		9.501			

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Blk III Management and Support Services	C/CPFF	Jorge Scientific Corporation:Lexington Park, MD	-	-		0.343	Nov 2012	-		0.343	Continuing	Continuing	Continuing
Blk III Travel- Obligation throughout the year	WR	NAVAIR:Patuxent River, MD	-	-		0.019	Nov 2012	-		0.019	Continuing	Continuing	Continuing
Blk III Transportation - Material	WR	NAWCAD:Patuxent River, MD	-	-		0.020	Nov 2012	-		0.020	Continuing	Continuing	Continuing
Subtotal			-	-		0.382		-		0.382			

			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	-		9.883		-		9.883			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0207161N: <i>Tactical Aim Missiles</i>	PROJECT 0458: <i>AIM-9X Block III</i>
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TACTICAL AIM MISSILES Block III	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017											
	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 - Blk III									MS-A ▲												MS-B ▲															
Systems Development - Blk III					H/W Dev																															
					Prototypes												Downselect								H/W E&MD											
					S/W E&MD																															
Reviews									ASR ■				SRR #1 ■				TRR ■	SRR #2 ■			SFR ■				SSR ■	PDR ■							IBR ■			
T&E Milestones - Blk III																	Demo Tests																			
																	EOA ■																			
Production Milestones - Blk III																																				
Contract Awards																																				
Production Deliveries - Blk III																																				

2013PB - 0207161N - 0458

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0207161N: <i>Tactical Aim Missiles</i>	PROJECT 0458: <i>AIM-9X Block III</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
TACTICAL AIM MISSILES Block III				
Acquisition Milestone - Blk III: Acquisition Milestone A	1	2013	1	2013
Acquisition Milestone - Blk III: Acquisition Milestone B	4	2015	4	2015
Systems Development - Blk III: Systems Development Primary H/W Development	1	2012	3	2016
Systems Development - Blk III: Systems Development Primary H/W Development Competitive	2	2013	2	2015
Systems Development - Blk III: Systems Development Primary H/W Competitive Downselect	3	2015	3	2016
Systems Development - Blk III: Primary H/W Development Engineering & Manufacturing	4	2016	4	2017
Systems Development - Blk III: Primary S/W Development Engineering & Manufacturing	4	2016	4	2017
Systems Development - Blk III: Reviews: Alternative Systems Review (ASR)	4	2012	4	2012
Systems Development - Blk III: Reviews: System Requirements Review (SRR) #1	2	2013	2	2013
Systems Development - Blk III: Reviews: Prototypes Test Readiness Review (TRR)	2	2014	2	2014
Systems Development - Blk III: Reviews: System Requirements Review (SRR) #2	3	2014	3	2014
Systems Development - Blk III: Reviews: System Function Review (SFR)	3	2015	3	2015
Systems Development - Blk III: Reviews: System Specification Review (SSR)	2	2016	2	2016
Systems Development - Blk III: Reviews: Preliminary Design Review (PDR)	3	2016	3	2016
Systems Development - Blk III: Reviews: Integrated Baseline Review (IBR)	2	2017	2	2017
T&E Milestones - Blk III: Test & Evaluation Competitive Prototype Demo Tests	4	2014	4	2015
T&E Milestones - Blk III: Test & Evaluation Early Operational Assessment (EOA)	1	2015	1	2015

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0207163N: <i>AMRAAM</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	2.588	2.913	2.857	-	2.857	2.774	2.823	2.894	2.975	24.500	44.324
0981: <i>AMRAAM</i>	2.588	2.913	2.857	-	2.857	2.774	2.823	2.894	2.975	24.500	44.324

A. Mission Description and Budget Item Justification

This joint Navy/Air Force program is structured in response to the Joint Service Operational Requirement and Mission Element Need Statement to develop an air superiority air-to-air missile with significant improvements in operational utility and combat effectiveness. This program supports the integration of the Advanced Medium Range Air-to-Air Missile (AMRAAM) into Navy aircraft with analysis of Navy unique applications, aircraft missile integration tasks, product improvement efforts including missile software upgrade development and procurement of hardware to support Navy test and evaluation tasks.

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	2.633	2.913	2.942	-	2.942
Current President's Budget	2.588	2.913	2.857	-	2.857
Total Adjustments	-0.045	-	-0.085	-	-0.085
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.032	-			
• Program Adjustments	-	-	-0.091	-	-0.091
• Rate/Misc Adjustments	-	-	0.006	-	0.006
• Congressional General Reductions Adjustments	-0.013	-	-	-	-

Change Summary Explanation

Technical: Not Applicable

Schedule: The AIM-120D completed an FCA in Sep 09 and the SDD contract was closed. The program entered the DT/OT phase of flight test in 2010. Two successful shots were conducted but several anomalies were discovered during this period. These anomalies were categorized as Build-in-test (BIT) failures, GPS satellite acquisition, Active Electronically Scanned Array (AESA) interference, and missile lockups. Software updates have since mitigated the GPS satellite acquisition, AESA, and BIT issues. Additional software improvements introduced in FY11 have reduced the frequency of missile lockups; and further

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	PE 0207163N: <i>AMRAAM</i>

improvements are being flight-tested in early-FY12. In Aug 11, the third DT/OT shot was successfully conducted; and the program plans to enter dedicated OT in the 3rd quarter of FY12.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0207163N: <i>AMRAAM</i>	PROJECT 0981: <i>AMRAAM</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
0981: <i>AMRAAM</i>	2.588	2.913	2.857	-	2.857	2.774	2.823	2.894	2.975	24.500	44.324
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

This joint Navy/Air Force program is structured in response to the Joint Service Operational Requirement and Mission Element Need Statement to develop an air superiority air-to-air missile with significant improvements in operational utility and combat effectiveness. This program supports the integration of the AMRAAM into Navy aircraft with analysis of Navy unique applications, aircraft missile integration tasks, product improvement efforts including missile software upgrade development and procurement of hardware to support Navy test and evaluation tasks.

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

	FY 2011	FY 2012	FY 2013
<p>Title: Continue aircraft integration</p> <p style="text-align: right;">Articles:</p> <p>Description: Continue Aircraft integration activities and test and evaluation for Navy unique requirements.</p> <p>FY 2011 Accomplishments: Continued aircraft integration activities and test and evaluation for Navy unique requirements.</p> <p>FY 2012 Plans: Continue aircraft integration activities and test and evaluation for Navy unique requirements.</p> <p>FY 2013 Plans: Continue aircraft integration activities and test and evaluation for Navy unique requirements.</p>	<p>0.860</p> <p>0</p>	<p>0.822</p> <p>0</p>	<p>0.850</p> <p>0</p>
<p>Title: Continue to identify potential improvements</p> <p style="text-align: right;">Articles:</p> <p>Description: Continue engineering support of AMRAAM, including investigation and analysis of technologies that offer potential improvements in AMRAAM lethality/performance and compatibility with related weapons systems.</p> <p>FY 2011 Accomplishments: Continued engineering support of AMRAAM, including investigation and analysis of technologies that offer potential improvements in AMRAAM lethality/performance and compatibility with related weapons systems. Conduct Operational Flight Profile (OFP) efforts.</p> <p>FY 2012 Plans:</p>	<p>0.400</p> <p>0</p>	<p>0.404</p> <p>0</p>	<p>0.402</p> <p>0</p>

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0207163N: <i>AMRAAM</i>	PROJECT 0981: <i>AMRAAM</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Continue engineering support of AMRAAM, including investigation and analysis of technologies that offer potential improvements in AMRAAM lethality/performance and compatibility with related weapons systems. Conduct OFP efforts. FY 2013 Plans: Continue engineering support of AMRAAM, including investigation and analysis of technologies that offer potential improvements in AMRAAM lethality/performance and compatibility with related weapons systems. Conduct OFP efforts. Title: Continue System Improvement Program (SIP) efforts			
Articles:	1.328 0	1.687 0	1.605 0
Description: Continue system engineering and test activities in AMRAAM Phase 4 program which includes aircraft integration/ aircraft OFP efforts and Phase 4 test/equipment tasks. Continue system engineering/aircraft integration activities for SIP with emphasis on Navy unique compatibility requirements and Navy aircraft integration/compatibility requirements. FY 2011 Accomplishments: Continued system engineering and test activities in AMRAAM Phase 4 program which includes aircraft integration/aircraft OFP efforts and Phase 4 test/equipment tasks. Continue system engineering/aircraft integration activities for SIP with emphasis on Navy unique compatibility requirements and Navy aircraft integration/compatibility requirements. FY 2012 Plans: Continue system engineering/aircraft integration activities for SIP with emphasis on Navy unique compatibility requirements and Navy aircraft integration/compatibility requirements. FY 2013 Plans: Continue system engineering/aircraft integration activities for SIP with emphasis on Navy unique compatibility requirements and Navy aircraft integration/compatibility requirements.			
Accomplishments/Planned Programs Subtotals	2.588	2.913	2.857

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

<u>Line Item</u>	<u>FY 2013</u>		<u>FY 2013</u>		<u>FY 2013</u>			<u>Cost To</u>				
	<u>FY 2011</u>	<u>FY 2012</u>	<u>Base</u>	<u>OCO</u>	<u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Complete</u>	<u>Total Cost</u>	
• WPN/ 220600: <i>AMRAAM</i>	144.729	105.119	102.683	0.000	102.683	169.561	173.851	187.240	189.247	2,191.983	4,984.211	
• MPAF/3479: <i>AMRAAM</i>	346.430	202.176	229.637	0.000	229.637	340.015	356.796	381.742	380.686	2,800.498	12,404.980	
• RDTE,AF/673777: <i>AMRAAM</i>	60.834	77.830	87.041	0.000	87.041	88.849	80.901	41.251	35.888	220.400	1,162.857	

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0207163N: <i>AMRAAM</i>	PROJECT 0981: <i>AMRAAM</i>

D. Acquisition Strategy

AMRAAM production procurements will continue across the FYDP with periodic pre-planned product improvements and Value Engineering Change Proposals. The Air Dominance Division, previously the 328th Armanent Systems Group, will revisit instituting a Long Term Pricing Agreement upon Raytheon's ability to consistently achieve monthly deliveries of 30 - 35 AIM-120Ds.

E. Performance Metrics

The AIM-120 AMRAAM program is meeting cost, schedule, performance, funding and life cycle sustainment in accordance with the Acquisition Program Baseline. Contractor is meeting the production schedule.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0207163N: <i>AMRAAM</i>	PROJECT 0981: <i>AMRAAM</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 (EGLIN)	SS/CPAF	RAYTHEON COMPANY:Tucson AZ	43.911	1.014	Jan 2012	0.725	Jan 2013	-		0.725	8.345	53.995	53.995
Award Fees (EGLIN)	SS/CPAF	Various:Various	6.253	0.179	Jan 2012	0.128	Jan 2013	-		0.128	1.475	8.035	8.035
Primary Hdw Development (DAHLGREN)	WR	NSWC DAHLGREN D C XDM1:Dahlgren VA	0.117	0.026	Nov 2011	0.026	Nov 2012	-		0.026	0.334	0.503	
Primary Hdw Development (NAWCAD)	WR	NAWCAD:Patuxent River MD	0.990	0.207	Nov 2011	0.467	Nov 2012	-		0.467	5.578	7.242	
Primary Hdw Development (NAWCWD)	WR	NAWCWD:China Lake CA	0.716	0.086	Nov 2011	0.089	Dec 2012	-		0.089	1.110	2.001	
Prior Years Hardware Dev	Various	Various:Various	22.670	-		-		-		-	0.000	22.670	
Subtotal			74.657	1.512		1.435		-		1.435	16.842	94.446	

Remarks
Remarks: Percentage of award fees actually awarded in past award fee periods is 15%

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 (NSMA)	WR	NAVY SYST MGT ACT:Arlington VA	3.047	0.204	Mar 2012	0.201	Mar 2013	-		0.201	2.595	6.047	
Studies & Analyses - JHU/APL	SS/FFP	NAVSEASYSKOM:Washington DC	1.260	0.200	May 2012	0.201	May 2013	-		0.201	2.618	4.279	4.279
Prior Years Dev/Acft Integ	Various	Various:Various	17.420	-		-		-		-	0.000	17.420	
Subtotal			21.727	0.404		0.402		-		0.402	5.213	27.746	

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0207163N: <i>AMRAAM</i>	PROJECT 0981: <i>AMRAAM</i>
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AMRAAM	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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
Pre-Planned Product Improvement (P3I) Phase 4																												
Phase 4 SIP/SWUP	SIP/SWUP																											
System OT																												
IOC																												
F/A-18E/F Operational Test																												
F/A18 E/F ▲																												
F/A18 C/D ▲																												
Production Milestones																												
Contract Awards				●				●																				
Lot 25				●																								
Lot 26					●																							
Lot 27									●																			
Lot 28														●														
Lot 29																												
Lot 30																												
Lot 31																												
Production Deliveries																												
Lot 23																												
Lot 24																												
Lot 25																												
Lot 26																												
Lot 27																												
Lot 28																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0207163N: <i>AMRAAM</i>	PROJECT 0981: <i>AMRAAM</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
AMRAAM				
Pre-Planned Product Improvement (P3I) Phase 4: Phase 4 SIP/SWUP: Phase 4 SIP/SWUP Start (P3I Follow-On)	1	2011	4	2017
Pre-Planned Product Improvement (P3I) Phase 4: System OT: F/A-18E/F Operational Test	3	2012	4	2013
Pre-Planned Product Improvement (P3I) Phase 4: IOC: IOC F/A18 E/F (Threshold)	1	2014	1	2014
Pre-Planned Product Improvement (P3I) Phase 4: IOC: IOC F/A18 C/D	2	2014	2	2014
Production Milestones: Contract Awards: Production Lot 25 Contract Award	4	2011	4	2011
Production Milestones: Contract Awards: Production Lot 26 Contract Award	2	2012	2	2012
Production Milestones: Contract Awards: Production Lot 27 Contract Award	2	2013	2	2013
Production Milestones: Contract Awards: Production Lot 28 Contract Award	2	2014	2	2014
Production Milestones: Contract Awards: Production Lot 29 Contract Award	2	2015	2	2015
Production Milestones: Contract Awards: Production Lot 30 Contract Award	2	2016	2	2016
Production Milestones: Contract Awards: Production Lot 31 Contract Award	2	2017	2	2017
Production Deliveries: Production Deliveries - Lot 23	3	2011	3	2012
Production Deliveries: Production Deliveries - Lot 24	3	2012	2	2013
Production Deliveries: Production Deliveries - Lot 25	2	2013	1	2014
Production Deliveries: Production Deliveries - Lot 26	2	2014	2	2015
Production Deliveries: Production Deliveries - Lot 27	2	2015	2	2016
Production Deliveries: Production Deliveries - Lot 28	2	2016	2	2017
Production Deliveries: Production Deliveries - Lot 29	2	2017	4	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0208058N: <i>Joint High Speed Vessel (JHSV)</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	3.508	4.108	1.932	-	1.932	1.038	-	-	-	0.000	10.586
3131: <i>Intratheater Connectors (Concept Studies)</i>	1.585	-	-	-	-	-	-	-	-	0.000	1.585
3134: <i>Intratheater Connectors (Contract Design)</i>	1.923	4.108	1.932	-	1.932	1.038	-	-	-	0.000	9.001

A. Mission Description and Budget Item Justification

Future joint forces will be responsive, deployable, agile, versatile, lethal, survivable and sustainable. The nation will need lift assets that can provide for assured access, decrease predictability and dwell time, and have the capacity to quickly deliver troops and equipment together in a manner that provides for unit integrity. Joint High Speed Vessel (JHSV) will provide Combatant Commanders high-speed, intra-theater sealift mobility with inherent cargo handling capability and the agility to achieve positional advantage over operational distances. Not limited to major ports, the JHSV will be able to operate in austere port environments.

B. Program Change Summary (\$ in Millions)

	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013 Base</u>	<u>FY 2013 OCO</u>	<u>FY 2013 Total</u>
Previous President's Budget	3.586	4.108	2.124	-	2.124
Current President's Budget	3.508	4.108	1.932	-	1.932
Total Adjustments	-0.078	-	-0.192	-	-0.192
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.060	-			
• Program Adjustments	-	-	-0.192	-	-0.192
• Congressional General Reductions Adjustments	-0.018	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0208058N: <i>Joint High Speed Vessel (JHSV)</i>	PROJECT 3131: <i>Intratheater Connectors (Concept Studies)</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
3131: <i>Intratheater Connectors (Concept Studies)</i>	1.585	-	-	-	-	-	-	-	-	0.000	1.585
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Future joint forces will be responsive, deployable, agile, versatile, lethal, survivable, and sustainable. The nation will need lift assets that can provide for assured access, decrease predictability and dwell time, and have the capacity to quickly deliver troops and equipment together in a manner that provides for unit integrity. Joint High Speed Vessel (JHSV) will provide combatant commanders high-speed intra-theater sealift mobility with inherent cargo handling capability and the agility to achieve positional advantage over operational distances. Not limited to major ports, the JHSV will be able to operate in austere port environments. The Joint High Speed Vessel is one of three programs in the Department's "Capital Account Pilot Program."

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

	FY 2011	FY 2012	FY 2013
Title: Accomplishment/Effort/Subtotal Cost	1.585	-	-
Articles:	0		
Description: R&D efforts for the Joint High Speed Vessel (JHSV) - addressing spiral technology development and risk mitigation efforts through demonstration of tools and monitoring systems for hull fatigue unique to lightweight hull forms. Continuing to conduct R&D in areas involving lightweight aluminum flight decks and safe transport of ammunition and dangerous goods aboard lightweight vessels and production prototypes.			
FY 2011 Accomplishments: Continued efforts in support of DT&E. Continued Modeling and Simulation in support of LFT&E. Supported Integrated Testing opportunities.			
Accomplishments/Planned Programs Subtotals	1.585	-	-

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

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PE 0208058N/3043: <i>SCN/BLI 3043 Joint High Speed Vessel</i>	179.705	372.332	189.196	0.000	189.196	0.000	0.000	0.000	0.000	0.000	1,099.900
• PE 0208058N/L5110: <i>SCN JHSV Outfitting and Post Delivery</i>	1.300	5.662	30.404	0.000	30.404	34.820	34.213	14.387	9.028	32.889	162.703

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0208058N: <i>Joint High Speed Vessel (JHSV)</i>	PROJECT 3131: <i>Intratheater Connectors (Concept Studies)</i>

D. Acquisition Strategy

Two-phased strategy with competitive preliminary design effort leading to downselect to a single contractor. FPI contract is being used for construction.

E. Performance Metrics

Complete the development of plans and efforts associated with the Development Test & Evaluation (DT&E) in order to successfully begin the Initial Operational Test and Evaluation (IOT&E) in FY12.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0208058N: <i>Joint High Speed Vessel (JHSV)</i>	PROJECT 3131: <i>Intratheater Connectors (Concept Studies)</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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			
Modeling & Simulation	C/CPHF	Alion/CSC:VAR	2.247	-		-		-		-	0.000	2.247	
Risk Mitigation Efforts	C/CPHF	Alion:VAR	0.762	-		-		-		-	0.000	0.762	
Subtotal			3.009	-		-		-		-	0.000	3.009	

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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			
Integrated Logistics Support	C/CPAF	Alion/NAVSEALOGCEN:VAR	1.422	-		-		-		-	0.000	1.422	
Technical Data	WR	NSWC-CD/NRL:VAR	1.598	-		-		-		-	0.000	1.598	
Studies & Analyses	WR	NSWC-CD/NATICK/OSD:VAR	1.724	-		-		-		-	0.000	1.724	
Subtotal			4.744	-		-		-		-	0.000	4.744	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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	COTF/JITC:VAR	0.694	-		-		-		-	0.000	0.694	
Subtotal			0.694	-		-		-		-	0.000	0.694	

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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/CPHF	CSC/Alion:VAR	3.400	-		-		-		-	0.000	3.400	

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0208058N: <i>Joint High Speed Vessel (JHSV)</i>	PROJECT 3131: <i>Intratheater Connectors (Concept Studies)</i>
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Fiscal Year	2011				2012				2013				2014				2015				2016				2017				
	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									△ IOC				△ MS C/FRP Decision Review																
Award Sixth Vessel (NAVY 1101)			△																										
Award Seventh Vessel *Army Funded		△																											
Award Eighth Vessel (NAVY 1201)						△																							
Award Ninth Vessel *Army Funded						△																							
Award Tenth Vessel (NAVY 1301)										△																			
T&E Program Development																													
DT&E																													

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0208058N: <i>Joint High Speed Vessel (JHSV)</i>	PROJECT 3131: <i>Intratheater Connectors (Concept Studies)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 3131				
IOC	2	2013	2	2013
Milestone C/FRP Decision	3	2013	3	2013
Award Sixth Vessel (NAVY 1101)	3	2011	3	2011
Award Seventh Vessel *Army Funded	3	2011	3	2011
Award Eighth Vessel (NAVY 1201)	2	2012	2	2012
Award Ninth Vessel *Army Funded	2	2012	2	2012
Award Tenth Vessel (NAVY 1301)	2	2013	2	2013
TEMP Updates	4	2011	4	2011
DT&E Certification and Assessment Support	1	2011	4	2011

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0208058N: <i>Joint High Speed Vessel (JHSV)</i>	PROJECT 3134: <i>Intratheater Connectors (Contract Design)</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
3134: <i>Intratheater Connectors (Contract Design)</i>	1.923	4.108	1.932	-	1.932	1.038	-	-	-	0.000	9.001
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Future joint forces will be responsive, deployable, agile, versatile, lethal, survivable, and sustainable. The nation will need lift assets that can provide for assured access, decrease predictability and dwell time, and have the capacity to quickly deliver troops and equipment together in a manner that provides for unit integrity. Joint High Speed Vessel (JHSV) will provide combatant commanders high-speed intra-theater sealift mobility with inherent cargo handling capability and the agility to achieve positional advantage over operational distances. Not limited to major ports, the JHSV will be able to operate in austere port environments. The Joint High Speed Vessel is one of three programs in the Department's "Capital Account Pilot Program."

The primary objective of the T&E program is to ensure that the JHSV is effective and suitable for its intended mission. The focus will be on reducing test time and cost through an appropriate combination of DT and OT events in order to achieve compatible objectives.

DT&E efforts include M&S, design analysis, inspection, component testing, system level testing, demonstration, ship trials, and PDT&T events. The JHSV T&E Program will coordinate DT&E and OT&E to bring the lead ship to Initial Operational Capability (IOC) in the most efficient and timely manner possible.

Operational testing will include an Operational Assessment (OA), Initial Operational Test and Evaluation (IOT&E) and Follow-on Operational Test and Evaluation (FOT&E). JHSV OT&E will be conducted as Multi-service OT&E events.

The objective of Live Fire Test and Evaluation (LFT&E) is to provide a timely and reasonable assessment of the survivability of the system as it progresses through its development and prior to full-rate production. The program will utilize existing commercial and military technologies to modify commercial high-speed ferry designs for military use.

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

	FY 2011	FY 2012	FY 2013
Title: Intratheater Connectors (Contract Design)	1.923	4.108	1.932
Articles:	0	0	0
FY 2011 Accomplishments: Continued efforts for the DSAR. Completed test plan development for the TSST. Supported Integrated testing opportunities. Began detailed test plan development for IOT&E.			
FY 2012 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0208058N: <i>Joint High Speed Vessel (JHSV)</i>	PROJECT 3134: <i>Intratheater Connectors (Contract Design)</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Begin Post Delivery Test & Trials (PDT&T) to evaluate the performance of the JHSV. Conduct IOT&E as well as the TSST.			
FY 2013 Plans: Conduct the Final Survivability Assessment of the JHSV. Begin FOT&E			
Accomplishments/Planned Programs Subtotals	1.923	4.108	1.932

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

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PE 0208058N/3043: <i>SCN Joint High Speed Vessel</i>	179.705	372.332	189.196	0.000	189.196	0.000	0.000	0.000	0.000	0.000	1,099.900
• PE 0208058N/5110: <i>SCN Joint High Speed Vessel Outfitting and Post Delivery</i>	1.300	5.662	30.404	0.000	30.404	34.820	34.213	14.387	9.028	32.889	162.703

D. Acquisition Strategy

Two-phased strategy with competitive preliminary design effort leading to downselect to a single contractor. FPI contract type will be used for detail design and construction.

E. Performance Metrics

Complete the test plan development for the Total Ship Survivability Trial (TSST). Complete the efforts and tasks for Operational Test & Evaluation (OT&E) and Live Fire Test & Evaluation (LFT&E) necessary to successfully begin Initial Test and Evaluation (IOT&E) in FY12 and FY13

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0208058N: <i>Joint High Speed Vessel (JHSV)</i>	PROJECT 3134: <i>Intratheater Connectors (Contract Design)</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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			
Ship Integration	C/CPIF	Alion/CSC:VAR	6.638	-		-		-		-	0.000	6.638	
Systems Engineering	C/CPIF	CSC:VAR	3.984	-		-		-		-	0.000	3.984	
Studies & Analysis	C/FP	Austal:Mobile, AL	1.300	-		-		-		-	0.000	1.300	
Subtotal			11.922	-		-		-		-	0.000	11.922	

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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			
Development Support	WR	NSWC-CD:Carderock, MD	2.000	-		-		-		-	0.000	2.000	
Integrated Logistics Support	C/CPIF	Alion:VAR	1.276	-		-		-		-	0.000	1.276	
Configuration/Acquisition Management	C/CPIF	Alion/CSC:VAR	2.738	-		-		-		-	0.000	2.738	
Technical Data	WR	NSWC-CD:Carderock, MD	0.755	-		-		-		-	0.000	0.755	
Subtotal			6.769	-		-		-		-	0.000	6.769	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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 and Evaluation	WR	VAR:VAR	-	1.433	Jan 2012	0.073	Jan 2013	-		0.073	0.000	1.506	
Operational Test & Evaluation	WR	COTF/MCOTEA/ ATEC:VAR	3.044	2.363	Jan 2012	1.446	Jan 2013	-		1.446	1.038	7.891	
Live Fire Test & Evaluation	WR	VAR:VAR	3.887	0.312	Jan 2012	0.413	Jan 2013	-		0.413	0.000	4.612	
Subtotal			6.931	4.108		1.932		-		1.932	1.038	14.009	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0208058N: <i>Joint High Speed Vessel (JHSV)</i>	PROJECT 3134: <i>Intratheater Connectors (Contract Design)</i>
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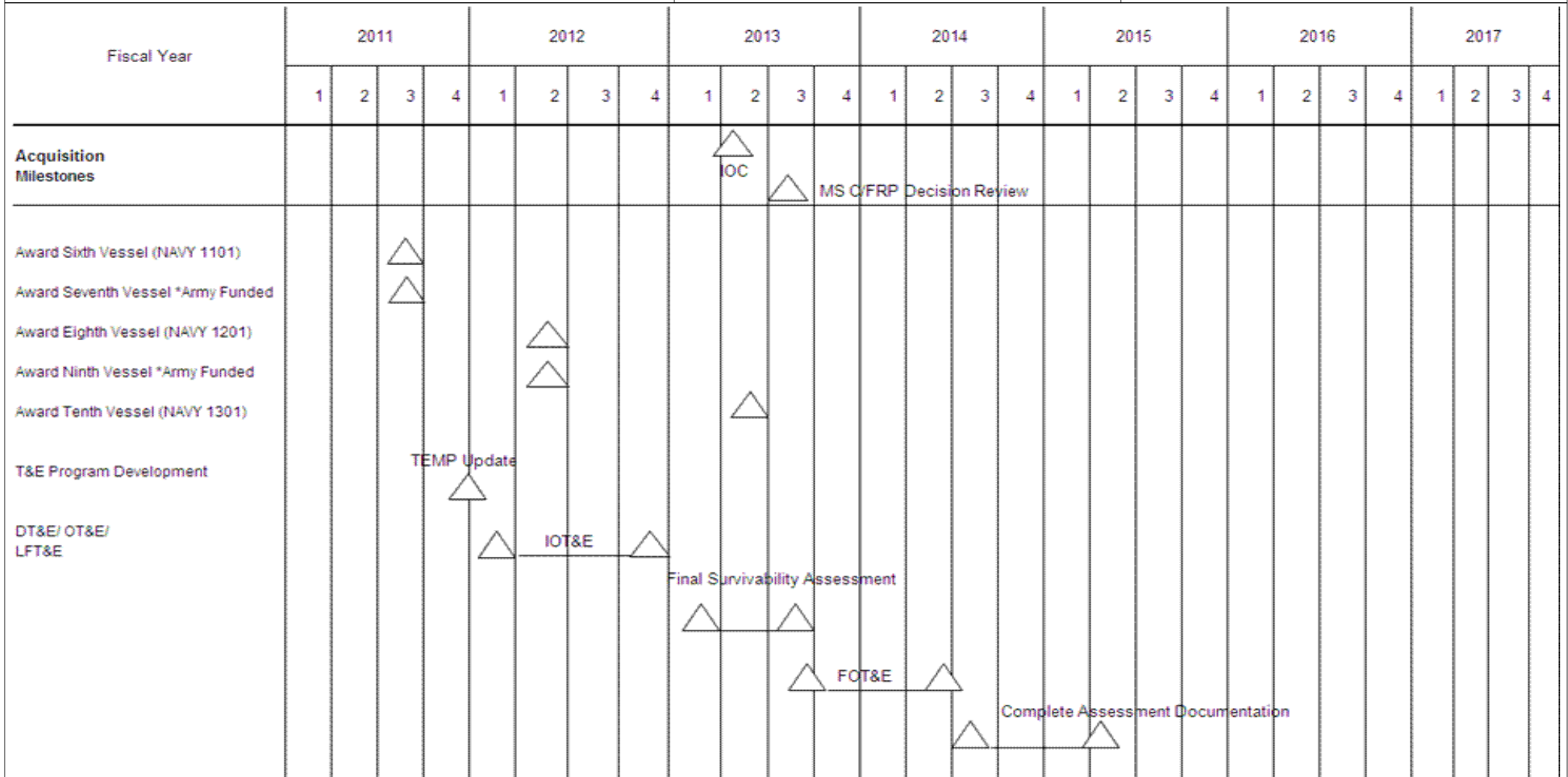
Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total		Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost				
Contractor Engineering Support	C/CPIF	CSC/Alion:VAR	1.698	-		-		-		-	0.000	1.698		
Government Engineering Support	WR	NSWC-CD/NSWC-DD:VAR	2.252	-		-		-		-	0.000	2.252		
Program Management Support	C/CPIF	Alion/CSC:VAR	1.964	-		-		-		-	0.000	1.964		
Travel	Various	NAVSEA:VAR	0.436	-		-		-		-	0.000	0.436		
DAWDF	WR	Not Specified:Not Specified	0.039	-		-		-		-	0.000	0.039		
Subtotal			6.389	-		-		-		-	0.000	6.389		
Project Cost Totals			32.011	4.108		1.932		-		1.932	1.038	39.089		

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0208058N: <i>Joint High Speed Vessel (JHSV)</i>	PROJECT 3134: <i>Intratheater Connectors (Contract Design)</i>
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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0208058N: <i>Joint High Speed Vessel (JHSV)</i>	PROJECT 3134: <i>Intratheater Connectors (Contract Design)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 3134				
IOC	2	2013	2	2013
Milestone C/FRP Decision	3	2013	3	2013
Award Sixth Vessel (NAVY 1101)	3	2011	3	2011
Award Seventh Vessel *Army Funded	3	2011	3	2011
Award Eighth Vessel (NAVY 1201)	2	2012	2	2012
Award Ninth Vessel *Army Funded	2	2012	2	2012
Award Tenth Vessel (NAVY 1301)	2	2013	2	2013
TEMP Updates	4	2011	4	2011
IOT&E	1	2012	4	2012
HERO, HERP & HERF surveys	2	2012	2	2012
Final Survivability Assessment	1	2013	3	2013
FOT&E	3	2013	2	2014
Complete Assessment documentation	3	2014	2	2015

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303109N: <i>Satellite Communications (Space)</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	410.015	263.439	188.482	-	188.482	53.734	19.521	18.098	14.300	Continuing	Continuing
0728: <i>EHF SATCOM Terminals</i>	18.026	18.805	31.731	-	31.731	16.819	19.521	18.098	14.300	Continuing	Continuing
0731: <i>FLTSATCOM</i>	0.607	0.721	10.828	-	10.828	11.215	-	-	-	0.000	23.371
2472: <i>Mobile User Objective Sys (MUOS)</i>	391.382	243.913	145.923	-	145.923	25.700	-	-	-	130.912	937.830

A. Mission Description and Budget Item Justification

The Navy Multiband Terminal (NMT) Program is the required Navy component to the Advanced Extremely High Frequency (AEHF) Program for enhancing protected and survivable satellite communications to Naval forces. The NMT system provides an increase in single service capability from 1.5 Megabits per second (Mbps) to 8 Mbps, increases the number of coverage areas and retains Anti-Jam/Low Probability of Intercept (AJ/LPI) protection characteristics. It is compatible with today's Navy Low Data Rate/Medium Data Rate (LDR/MDR) terminals and will sustain the Military Satellite Communications (MILSATCOM) architecture by providing connectivity across the spectrum of mission areas, to include land, air and naval warfare, special operations, strategic nuclear operations, strategic defense, theater missile defense, and space operations and intelligence. The NMT system will replenish and improve on Navy terminal capabilities of the Military Strategic, Tactical & Relay System (MILSTAR), Defense Satellite Communications System (DSCS), Wideband Global Satellite (WGS) and Global Broadcast System (GBS). The new system will equip the warfighters with the assured, jam resistant, secure communications as described in the joint AEHF Satellite Communications System and WGS Operational Requirements Documents (ORD). The NMT will provide multiband Satellite Communications (SATCOM) capability for ship, submarine, and shore platforms.

The Joint Ultra-High Frequency (UHF) MILSATCOM Network Integrated Control System (JMINI CS) is a legacy system that commenced in 1998. JMINI CS is a Navy-led, Joint-interest program providing integrated, dynamic, and centralized control of non-processed UHF MILSATCOM 5/25 kHz Demand Assigned Multiple Access (DAMA) and Demand Assign Single Access (DASA) channels to maximize existing highly sought after SATCOM resources. The system also provides decentralized web-based management of those resources for use as a situational awareness tool for Combatant Commanders, Global SATCOM Support Centers, and Regional SATCOM Support Centers. The system is expected to operate well beyond the original 2015 End of Life (EoL) date to 2025. The JMINI Program of Record (POR) will perform concept development and exploration to identify cost-effective solutions to address multiple life cycle support issues, in order to minimize loss of service to the fleet. The effort will involve evaluation, development, laboratory and integration testing of COTS and GOTS hardware and software to replace obsolete components or subsystems for effectiveness with existing systems.

The Sensitive Compartmented Information Networks (SCI Networks) provides enabling technology for Intelligence, Cryptologic, and Information Warfare Systems with protected and reliable delivery of Special Intelligence (SI)/SCI data through a secure, controllable network interface with the Automated Digital Network System (ADNS) architecture. This network connectivity allows cryptologic and intelligence personnel to fully interact with shore based nodes to provide support to their commanders, including situational awareness, indications and warning (I&W), enemy force intentions, intelligence preparation for the Battlefield, and Battle Damage Assessment (BDA).

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303109N: <i>Satellite Communications (Space)</i>
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Maritime Integrated Broadcast Service (MIBS) (formerly Tactical Data Information Exchange Subsystem Broadcast (TADIXS-B)) Program Charter is to deliver Integrated Broadcast Service (IBS) data to operational and tactical decision makers aboard United States Navy ships, shore headquarters, and other joint platforms. It will provide means to disseminate organically derived data from Navy platforms to other tactical, operational, and strategic users in theatre. MIBS provides the Navy a capability to deliver near real time data, enhancing the Common Operational Picture (COP), to support operations in all warfare areas, including: Ballistic Missile Defense (BMD), Anti-Air Warfare (AAW), Anti-Surface Warfare (ASW), Undersea Warfare (USW), Electronic Warfare (EW). The program encompasses Navy IBS systems (Joint Tactical Terminal - Maritime (JTT-M)). These systems will provide the Navy and other joint platforms with a coherent approach to fielding maritime IBS systems that takes advantage of all available pathways and services.

Internet Protocol version 6 (IPv6): Manage and resource/coordinate resourcing of experiments and pilot testing of IPv6 technologies to reduce acquisition and operational risk associated with the IPv6 Transition. Experiments identified are in direct support of and identified in the Navy Technical Transition Strategy for IPv6.

The Mobile User Objective System (MUOS) program provides for the development of the next generation Department of Defense (DoD) advanced narrowband communications satellite constellation. The current Ultra-High Frequency (UHF) Follow-On (UFO) constellation is projected to degrade below acceptable availability parameters in 2012.

This MUOS Research Development Test & Evaluation, Navy (RDT&E,N) effort supports an On-Orbit Capability (OOC) in fiscal year (FY) 2012 and Full Operational Capability (FOC) in FY 2017.

B. Program Change Summary (\$ in Millions)	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013 Base</u>	<u>FY 2013 OCO</u>	<u>FY 2013 Total</u>
Previous President's Budget	422.268	263.712	143.689	-	143.689
Current President's Budget	410.015	263.439	188.482	-	188.482
Total Adjustments	-12.253	-0.273	44.793	-	44.793
• Congressional General Reductions	-	-0.273			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	2.742	-			
• SBIR/STTR Transfer	-12.667	-			
• Program Adjustments	-	-	24.525	-	24.525
• Rate/Misc Adjustments	-	-	20.268	-	20.268
• Congressional General Reductions Adjustments	-2.328	-	-	-	-

Change Summary Explanation

Schedule:

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303109N: <i>Satellite Communications (Space)</i>
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EHF SATCOM Terminals (project 0728)
Milestone C was achieved on 29 July 2010.
Q/Ka integration was completed September 2010.
Reflects adjustments to Airborne XDR Development, and FRP DR milestone date.

Mobile User Objective System (project 2472)
MUOS schedule reflects adjustments to Ship, Launch, On-Orbit Capability (OOC) dates for satellites # 2-5; associated test events, and Full Operating Capability (FOC).

Technical:
No significant technical changes.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303109N: <i>Satellite Communications (Space)</i>	PROJECT 0728: <i>EHF SATCOM Terminals</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
0728: <i>EHF SATCOM Terminals</i>	18.026	18.805	31.731	-	31.731	16.819	19.521	18.098	14.300	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Navy Multiband Terminal (NMT) Program is the required Navy component to the Advanced Extremely High Frequency (AEHF) Program for enhancing protected and survivable satellite communications to Naval forces. The NMT system provides an increase in single service capability from 1.5 Megabits per second (Mbps) to 8 Mbps, increases the number of coverage areas, and retains Anti-Jam/Low Probability of Intercept (AJ/LPI) protection characteristics. It is compatible with today's Navy Low Data Rate/Medium Data Rate (LDR/MDR) terminals and will sustain the Military Satellite Communications (MILSATCOM) architecture by providing connectivity across the spectrum of mission areas, to include land, air and naval warfare, special operations, strategic nuclear operations, strategic defense, theater missile defense, and space operations and intelligence. The NMT system will replenish and improve on Navy terminal capabilities of the Military Strategic, Tactical & Relay System (MILSTAR), Defense Satellite Communications System (DSCS), Wideband Global Satellite (WGS), and Global Broadcast System (GBS). The new system will equip the warfighters with assured, jam resistant, secure communications as described in both the joint AEHF Satellite Communications System and the WGS Operational Requirement Documents (ORD). Mission requirements specific to Navy operations, including threat levels and scenarios, are contained in the ORD. The NMT will provide multiband Satellite Communications (SATCOM) capability for ship, submarine, and shore platforms.

FY13 funding will be used to complete the Developmental Testing (DT) and Operational Testing (OT) of Q/Ka, submarine X-band, and Ship X/Ka capabilities into the NMT system, complete the Follow On Test and Evaluation (FOT&E) of the NMT system for testing with the on-orbit Extended Data Rate (XDR) waveform and demonstration of communications planning with the Tactical Mission Planning Sub-System (T-MPSS), continue Airborne XDR and AEHF development to provide protected satellite communications in an Anti-Access Area Denial (A2AD) environment, continue the development and integration of the Advanced Time Delay Multiple Access Interface Processor(ATIP) into the NMT Terminal, perform system modifications to correct deficiencies discovered during testing, and continue on going efforts to test the Enhanced Polar System (EPS) functionality within the NMT system. NMT is expected to achieve Initial Operational Capability by FY13.

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

	FY 2011	FY 2012	FY 2013
Title: NMT Development	18.026	18.805	31.731
Articles:	0	0	0
Description: Overall program efforts include investigation of emerging technologies through study, development, and associated testing for feasibility of satellite communications-related program insertion. They also include first and second phases of Navy Multiband Terminal (NMT) development for System Design and Development (SDD) for ship, shore, and submarine platforms.			
FY 2011 Accomplishments: Continued the development of Q/Ka, submarine X-band, and Ship X/Ka capabilities. Completed Q/Ka, submarine X-band, Ship X/Ka Design Verification Testing (DVT) and Anti-Jam/Low Probability of Intercept Testing. Began Q/Ka, submarine X-band, and			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303109N: <i>Satellite Communications</i> (Space)	PROJECT 0728: <i>EHF SATCOM Terminals</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
<p>Ship X/Ka Developmental Testing (DT) and Operational Testing (OT). Performed system modifications to correct deficiencies discovered during testing. Continued efforts to incorporate the Enhanced Polar System (EPS) capability.</p> <p>FY 2012 Plans: Complete the development of Q/Ka, submarine X-band, and Ship X/Ka capabilities. Continue the Developmental Testing (DT) and Operational Testing (OT) of Q/Ka, submarine X-band, and Ship X/Ka capabilities into the NMT system. Begin Follow On Test and Evaluation (FOT&E) of the NMT system for testing with the on-orbit Extended Data Rate (XDR) waveform and demonstration of communications planning with the Tactical Mission Planning Sub-System (T-MPSS). Begin the development and integration of the Advanced Time Delay Multiple Access Interface Processor (ATIP) into the NMT Terminal. Perform system modifications to correct deficiencies discovered during testing. Continue on going efforts to test the Enhanced Polar System (EPS) functionality within the NMT system. Achieve NMT Initial Operational Capability milestone.</p> <p>FY 2013 Plans: Complete the Developmental Testing (DT) and Operational Testing (OT) of Q/Ka, submarine X-band, and Ship X/Ka capabilities into the NMT system. Complete the Follow On Test and Evaluation (FOT&E) of the NMT system for testing with the on-orbit Extended Data Rate (XDR) waveform and demonstration of communications planning with the Tactical Mission Planning Sub-System (T-MPSS). Complete the development and integration of the Advanced Time Delay Multiple Access Interface Processor (ATIP) into the NMT Terminal. Perform system modifications to correct deficiencies discovered during testing. Continue on going efforts to test the Enhanced Polar System (EPS) functionality within the NMT system.</p> <p>Continue Airborne XDR and AEHF development to provide protected satellite communications in an Anti-Access Area Denial (A2AD) environment. Maritime Aerial Layer Network (MALN) is the Navy solution to support the Joint Aerial Layer Network (JALN). MALN will use the Extended Data Rate (XDR) waveform for intra-battlegroup communications.</p>			
Accomplishments/Planned Programs Subtotals	18.026	18.805	31.731

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

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPN/3216: <i>Navy Multiband Terminal (NMT)</i>	140.207	107.242	184.825	0.000	184.825	217.101	289.030	117.094	56.991	91.666	1,265.769

D. Acquisition Strategy
Navy Multiband Terminal concept exploration contracts were awarded in FY 2001. Two System Development and Demonstration (SDD) contracts were competitively awarded in FY 2004 for the development and demonstration of four prototype terminals per vendor (eight total). In FY 2007, a down select to Raytheon occurred for

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	PE 0303109N: <i>Satellite Communications (Space)</i>	0728: <i>EHF SATCOM Terminals</i>

the development, demonstration and procurement of 20 Engineering Development Models (EDMs) which will incorporate integrated multi-band capabilities for Q/Ka band, Submarine X-Band, and Ship X/Ka frequency band communication requirements.

E. Performance Metrics

The RDT&E goal for the NMT program is to create a military satellite communications system that consolidates capabilities of current and future satellite systems in a single terminal.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303109N: <i>Satellite Communications</i> (Space)	PROJECT 0728: <i>EHF SATCOM Terminals</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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/CPAF	Various:Various	126.499	-		-		-		-	0.000	126.499	
Hardware Development	C/FFP	Harris:Melbourne, FL	6.136	-		-		-		-	0.000	6.136	
NMT EDM Development	C/CPAF	Raytheon:Marlborough, MA	198.680	-		-		-		-	0.000	198.680	
Hardware Development	WR	SSC PAC:San Diego, CA	1.009	-		-		-		-	0.000	1.009	
Ancillary Hardware Development	C/CPAF	Raytheon:Marlborough, MA	55.923	-		-		-		-	0.000	55.923	
Software Development	WR	NUWC:Newport, RI	8.581	-		-		-		-	0.000	8.581	
Software Development	C/CPAF	Raytheon:Marlborough, MA	41.453	4.792	Jan 2012	8.172	Jan 2013	-		8.172	19.406	73.823	
Systems Engineering	WR	SSC PAC:San Diego, CA	22.088	-		-		-		-	0.000	22.088	
Systems Engineering	WR	NUWC:Newport, RI	25.206	1.270	Nov 2011	1.548	Nov 2012	-		1.548	3.676	31.700	
Systems Engineering	C/CPAF	Linqest:San Diego, CA	34.905	-		-		-		-	0.000	34.905	
Systems Engineering	C/CPAF	Systech:San Diego, CA	-	1.284	Nov 2011	8.532	Nov 2012	-		8.532	20.260	30.076	
Software Development	C/CPAF	Unknown:Unknown	-	8.233	Jun 2012	9.561	Nov 2012	-		9.561	22.702	40.496	
Subtotal			520.480	15.579		27.813		-		27.813	66.044	629.916	

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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:San Diego, CA	11.412	-		-		-		-	0.000	11.412	
Logistics Support	WR	SSC PAC:San Diego, CA	3.555	-		-		-		-	0.000	3.555	
Studies & Analysis	WR	NUWC:Newport, RI	6.869	-		-		-		-	0.000	6.869	
Information Assurance	WR	SSC PAC:San Diego, CA	3.886	-		-		-		-	0.000	3.886	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303109N: <i>Satellite Communications</i> (Space)	PROJECT 0728: <i>EHF SATCOM Terminals</i>
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Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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			25.722	-		-		-		-	0.000	25.722		

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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 PAC:San Diego, CA	17.341	1.215	Nov 2011	1.481	Nov 2012	-		1.481	0.000	20.037		
Operational Test & Evaluation 1	WR	COMOPTEVFOR:Norfolk, VA	3.756	0.329	Nov 2011	0.403	Nov 2012	-		0.403	0.000	4.488		
Developmental Test & Evaluation	C/CPAF	Raytheon:Marlborough, MA	-	1.098	Nov 2011	1.340	Nov 2012	-		1.340	0.000	2.438		
Subtotal			21.097	2.642		3.224		-		3.224	0.000	26.963		

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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				
Contract Management	C/CPAF	BAH:San Diego	8.194	0.247	Nov 2011	0.300	Nov 2012	-		0.300	1.200	9.941		
Program Management	C/CPAF	BAH:San Diego	8.214	0.247	Nov 2011	0.300	Nov 2012	-		0.300	1.200	9.961		
Acquisition Management	WR	NCCA:Various	0.653	-		-		-		-	0.000	0.653		
Travel	Reqn	SPAWAR:Various	1.607	0.090	Nov 2011	0.094	Nov 2012	-		0.094	0.376	2.167		
Subtotal			18.668	0.584		0.694		-		0.694	2.776	22.722		

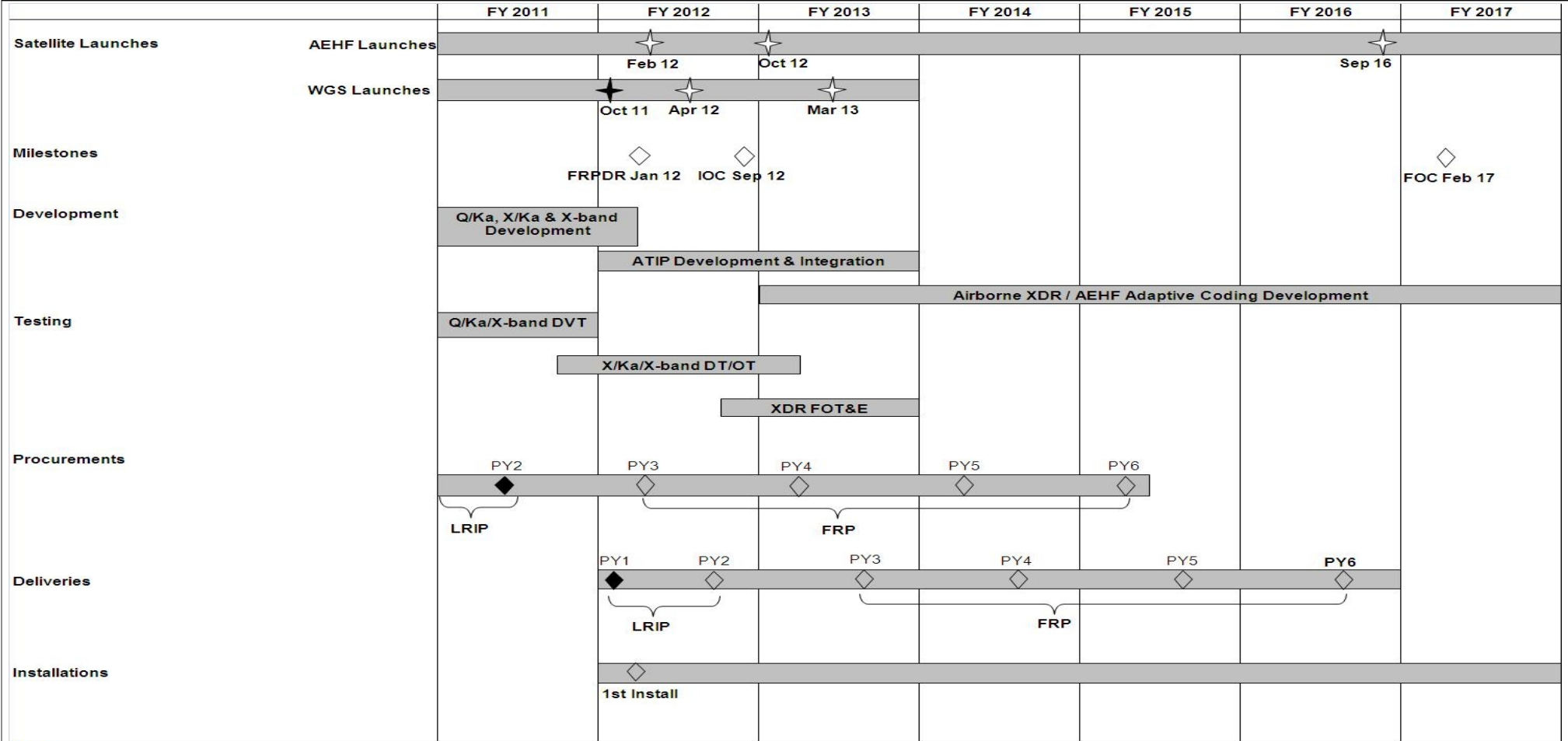
Project Cost Totals	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
585.967	18.805			31.731		-		31.731	68.820	705.323	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303109N: <i>Satellite Communications (Space)</i>	PROJECT 0728: <i>EHF SATCOM Terminals</i>
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Note:
Milestone C was achieved on 29 July 2010.

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303109N: <i>Satellite Communications (Space)</i>	PROJECT 0728: <i>EHF SATCOM Terminals</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 0728				
Q/Ka/X-Band Development	1	2011	2	2012
Q/Ka/X-Band DVT	1	2011	4	2011
Low Rate Initial Production (LRIP) Procurement Year 2 (PY2)	2	2011	2	2011
Q/Ka/X-band DT/OT	4	2011	1	2013
ATIP Development & Integration	1	2012	4	2013
WGS Launch #4	1	2012	1	2012
FRPDR	2	2012	2	2012
Procurement Year 3 (PY3)	2	2012	2	2012
LRIP PY1 Delivery	1	2012	1	2012
1st Install	1	2012	1	2012
AEHF Launch SV-2	2	2012	2	2012
WGS Launch #5	3	2012	3	2012
LRIP PY2 Delivery	3	2012	3	2012
Initial Operational Capability (IOC)	4	2012	4	2012
XDR FOT&E	4	2012	4	2013
AEHF Launch SV-3	1	2013	1	2013
Procurement Year 4 (PY4)	2	2013	2	2013
WGS Launch #6	2	2013	2	2013
PY3 Delivery	3	2013	3	2013
Procurement Year 5 (PY5)	2	2014	2	2014
PY4 Delivery	3	2014	3	2014

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303109N: <i>Satellite Communications (Space)</i>	PROJECT 0728: <i>EHF SATCOM Terminals</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Extension Airborne XDR/AEHF Adaptive Coding Development	1	2013	4	2017
Procurement Year 6 (PY6)	2	2015	2	2015
PY5 Delivery	3	2015	3	2015
PY6 Delivery	3	2016	3	2016
AEHF Launch SV-4	4	2016	4	2016
NMT Full Operational Capability (FOC)	2	2017	2	2017

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303109N: <i>Satellite Communications (Space)</i>	PROJECT 0731: <i>FLTSATCOM</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
0731: <i>FLTSATCOM</i>	0.607	0.721	10.828	-	10.828	11.215	-	-	-	0.000	23.371
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Joint Ultra-High Frequency (UHF) Military Satellite Communications (MILSATCOM) Network Integrated Control System (JMINI CS) is a legacy system that commenced in 1998. JMINI CS is a Navy-led, Joint-interest program providing integrated, dynamic, and centralized control of non-processed UHF MILSATCOM 5/25 kHz Demand Assigned Multiple Access (DAMA) and Demand Assign Single Access (DASA) channels to maximize existing highly sought after SATCOM resources. The system also provides decentralized web-based management of those resources for use as a situational awareness tool for Combatant Commanders, Global SATCOM Support Centers, and Regional SATCOM Support Centers. The system is expected to operate well beyond the original 2015 End of Life (EoL) date to 2025. The JMINI CS Program will perform concept development and exploration to identify cost-effective solutions to address multiple life cycle support issues, in order to minimize loss of service to the fleet. The effort will involve evaluation, development, laboratory and integration testing of Commercially available Off-The-Shelf (COTS) and Government off-the-shelf (GOTS) hardware and software to replace obsolete components or subsystems while maintaining interoperability with existing systems.

The Sensitive Compartmented Information Networks (SCI Networks) provides enabling technology necessary to provide Intelligence, Cryptologic, and Information Warfare Systems with protected and reliable delivery of Special Intelligence (SI)/SCI data through a secure, controllable network interface with the Automated Digital Network System (ADNS) architecture. SCI Networks provide real time indications and warning support to joint and component commanders through reliable high-speed transfer of sensor data and intelligence information.

(U) Maritime Integrated Broadcast Service (MIBS) (formerly Tactical Data Information Exchange Subsystem Broadcast (TADIXS-B)) Program Charter is to deliver Integrated Broadcast Service (IBS) data to operational and tactical decision makers aboard United States Navy ships, shore headquarters, and other joint platforms. It will provide means to disseminate organically derived data from Navy platforms to other tactical, operational, and strategic users in theater. MIBS provides the Navy a capability to deliver near real time data, enhancing the Common Operational Picture (COP), to support operations in all warfare areas, including: Ballistic Missile Defense (BMD), Anti-Air Warfare (AAW), Anti-Surface Warfare (ASW), Undersea Warfare (USW), Electronic Warfare (EW). The program encompasses Navy IBS systems (Joint Tactical Terminal - Maritime (JTT-M)). These systems will provide the Navy and other joint platforms with a coherent approach to fielding maritime IBS systems that takes advantage of all available pathways and services. FY13 funding will be used for analysis and final reporting on the Multiservice Operational Test and Evaluation (MOT&E) of the new Common Integrated Broadcast (CIB) waveform.

Internet Protocol version 6 (IPv6): The management and coordination of experiments and pilot testing of IPv6 technologies to reduce acquisition and operational risk associated with the IPv6 Transition.

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

	FY 2011	FY 2012	FY 2013
Title: Maritime Integrated Broadcast Service (MIBS)	0.116	0.069	0.059

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303109N: <i>Satellite Communications</i> (<i>Space</i>)	PROJECT 0731: <i>FLTSATCOM</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
Articles:		0	0	0
FY 2011 Accomplishments: Funds supported Navy integration testing of the AN/USC-62, Joint Tactical Terminal Senior (JTT-Sr) Upgrade Kit, which worked to enhance existing terminal capability to support the Common Integrated Broadcast (CIB) waveform, Common Message Format (CMF), and the National Security Agency (NSA) mandated Crypto Modernization Initiative (CMI).				
FY 2012 Plans: Funding will be used to begin Navy participation support in the Multiservice Operational Test and Evaluation (MOT&E) of the new Common Integrated Broadcast (CIB) waveform.				
FY 2013 Plans: Funding will be used to complete Navy Participation of the analysis and final reporting on the Multiservice Operational Test and Evaluation (MOT&E) of the new Common Integrated Broadcast (CIB) waveform.				
Title: SCI Networks		0.390	-	-
Articles:		0		
FY 2011 Accomplishments: Conducted 148G(V)2 with COMPOSE 4.0 Lab Development Test Assist (DTA). Completed 148G(V)2 with COMPOSE 4.0 DT/OT. Conducted 148F(V)2 Lab Development Test Assist (DTA). The RDT&E phase of the SCI Networks program completed in 2011.				
Title: IPv6 Transition		0.101	-	-
Articles:		0		
FY 2011 Accomplishments: Managed and resourced / coordinated resourcing of experiments and pilot testing of IPv6 technologies. This program was cancelled in FY2012.				
Title: JMINI CS		-	0.652	10.769
Articles:			0	0
FY 2012 Plans: Concept exploration and development to support product improvement that extends product life cycle, enabling continued support for warfighter missions until alternate capabilities become available.				
FY 2013 Plans:				

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303109N: <i>Satellite Communications</i> (Space)	PROJECT 0731: <i>FLTSATCOM</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Continue concept development and product improvement framework for a cost effective refresh, to extend the planned life cycle of the legacy JMINI program. Begin software development and testing.			
Accomplishments/Planned Programs Subtotals	0.607	0.721	10.828

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

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• OPN/2900: <i>Maritime Integrated Broadcast Service (MIBS)</i>	2.928	13.529	16.026	0.000	16.026	12.578	4.398	0.000	0.000	Continuing	Continuing
• OPN/3050: <i>Comm Auto - SCI NETWORKS</i>	22.333	20.082	1.716	0.000	1.716	0.000	0.000	0.000	0.000	Continuing	Continuing
• OPN/3215: <i>Sat Comm - JMINI</i>	3.984	1.545	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	7.871

D. Acquisition Strategy

JMINI CS: The Joint Ultra-High Frequency (UHF) Military Satellite Communications (MILSATCOM) is an ACAT IV (T) system that is post-FRP. As a legacy system that commenced in 1998, JMINI CS is expected to operate well beyond the original 2015 End of Life (EoL) date to 2025. The JMINI CS Program of Record (POR) will evaluate the most cost-effective solutions to address multiple life cycle support issues, in order to minimize loss of service to the fleet. The effort will involve evaluating COTS and GOTS hardware and software, and conducting laboratory/integration testing to ensure proper functionality and interoperability.

SCI Networks: Sensitive Compartmented Information (SCI) Networks variants are comprised of Commercial Off the Shelf (COTS) equipment and Government Off the Shelf (GOTS) software integrated into SCI Networks designs associated with each class of ship. Procurement equipment buys are done via the SSC PAC Network Integration Engineering Facility (NIEF) contract vehicle.

MIBS: The Joint Tactical Terminal (JTT) AN/USC-62 (JTT) will be upgraded, enhancing existing terminal capability to support the Common Integrated Broadcast (CIB), Common Message Format (CMF), and the National Security Agency (NSA) mandated Crypto Modernization Initiative (CMI). The upgrade requires integration testing to be completed by Space and Naval Warfare (SPAWAR) System Center Pacific personnel. Participation in the CIB Multiservice Operational Test and Evaluation (MOT&E) prior installation.

IPv6: IPv6 testing and experimentation will be used to manage the risk of transition within existing Programs of Record (PORs). Ultimately, the results of the testing and experimentation will influence the acquisition of IPv6 capable products and minimize risk of transition.

E. Performance Metrics

JMINI CS: The JMINI CS POR will perform concept development and exploration of the JMINI CS 5 KHz and 25 KHz systems, to analyze alternatives for the most advantageous use of new technologies to lengthen the JMINI CS system life span in order to minimize loss of service to the Fleet.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303109N: <i>Satellite Communications</i> (<i>Space</i>)	PROJECT 0731: <i>FLTSATCOM</i>

Sensitive Compartmented Information (SCI) Networks: Develops a consolidated SCI architecture that reduces total ownership cost (TOC) of the afloat SI Local Area Network (LAN) systems and reduces the risk for implementation of CANES by introducing a Common Computing Environment (CCE) and an Afloat Cores Services (ACS) Architecture.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303109N: <i>Satellite Communications</i> (Space)	PROJECT 0731: <i>FLTSATCOM</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
JMINI Contractor Engineering Support	C/CPFF	Unknown:Not Specified	12.188	0.461	Feb 2012	7.170	Dec 2012	-		7.170	7.466	27.285	
JMINI Government Engineering	WR	SSC PAC:San Diego, CA.	0.295	0.191	Feb 2012	3.599	Oct 2012	-		3.599	3.749	7.834	
Subtotal			12.483	0.652		10.769		-		10.769	11.215	35.119	

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
IPv6 Support	WR	SSC PAC:San Diego	2.418	-		-		-		-	0.000	2.418	
Subtotal			2.418	-		-		-		-	0.000	2.418	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
MIBS Development Test & Evaluation	WR	SSC PAC:San Diego, CA.	0.314	0.050	Nov 2011	0.049	Nov 2012	-		0.049	0.000	0.413	
Subtotal			0.314	0.050		0.049		-		0.049	0.000	0.413	

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
MIBS Program Management	WR	SSC PAC:San Diego, CA.	0.014	0.019	Nov 2011	0.010	Nov 2012	-		0.010	0.000	0.043	
Subtotal			0.014	0.019		0.010		-		0.010	0.000	0.043	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy							DATE: February 2012				
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>			R-1 ITEM NOMENCLATURE PE 0303109N: <i>Satellite Communications</i> (<i>Space</i>)			PROJECT 0731: <i>FLTSATCOM</i>					
	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	15.229	0.721		10.828		-		10.828	11.215	37.993	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303109N: <i>Satellite Communications</i> (Space)	PROJECT 0731: <i>FLTSATCOM</i>
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Fiscal Year	FY2011				FY2012				FY2013				FY2014				FY2015				FY2016				FY2017			
	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																												
Concept Development									Concept Dev																			
Software Development																												
Development Test																												
Operational Test																												
Production Milestones																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303109N: <i>Satellite Communications (Space)</i>	PROJECT 0731: <i>FLTSATCOM</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Proj 0731</i>				
Concept Development	2	2012	1	2013
Software Development Contract Award	1	2013	1	2013
Software Development	2	2013	4	2014
Development Test	4	2013	4	2014
Software Delivery	1	2015	1	2015

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0303109N: <i>Satellite Communications</i> (<i>Space</i>)				PROJECT 2472: <i>Mobile User Objective Sys (MUOS)</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2472: <i>Mobile User Objective Sys (MUOS)</i>	391.382	243.913	145.923	-	145.923	25.700	-	-	-	130.912	937.830
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Mobile User Objective System (MUOS) program provides for the development of the next generation Department of Defense (DoD) advanced narrowband communications satellite constellation. The current Ultra-High Frequency (UHF) Follow-On (UFO) constellation is projected to degrade below acceptable availability parameters in 2012.

This MUOS Research Development Test & Evaluation, Navy (RDT&E,N) effort supports an On-Orbit Capability (OOC) in fiscal year (FY) 2012 and Full Operational Capability (FOC) in FY 2017.

FY13: Complete remaining testing and preparation efforts to support launch of satellite 2. The MUOS activities planned for the ground segment will include system software testing and fixes resulting from site testing; and ground security updates resulting from Information Assurance (IA) Vulnerability Alerts. Complete software installation, test, and certification of hardware/software at Niscemi site. Complete site acceptance testing, for Build 3 software (B3), at Wahiawa, Geraldton, Northwest, and Niscemi in preparation for launch of satellite 2. Complete acceptance testing of the MUOS follow-on waveform. Begin IA waveform assessment and remediation of findings.

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

	FY 2011	FY 2012	FY 2013
Title: Mobile User Objective Sys (MUOS)	391.382	243.913	145.923
Articles:	0	0	0
FY 2011 Accomplishments:			
Continued work on assembly, integration and testing of satellites 1 and 2. Completed development, verification and factory acceptance tests for the ground system software builds. Completed all segment qualification testing for Ground Transport and Network Management segments. Completed development and testing of initial MUOS waveform. Continued development of follow-on version of the MUOS waveform. Completed site acceptance test, for initial software builds (B1a/B2), in Wahiawa in preparation for launch of satellite 1.			
FY 2012 Plans:			
Complete work on the assembly, integration and testing of satellite 1. Complete satellite 1 shipment, launch vehicle mate operations, launch and on-orbit testing. Complete work on the assembly, integration and testing of satellite 2. Provide fixes to ground software resulting from system testing, Information Assurance Vulnerability Alerts, and site testing. Continue development			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303109N: <i>Satellite Communications</i> (<i>Space</i>)	PROJECT 2472: <i>Mobile User Objective Sys (MUOS)</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
and initial testing of the follow-on version of the MUOS waveform. Complete installation and testing of final ground software at the Wahiawa, Northwest and Geraldton sites. Begin installation of final ground software at the site in Sicily.			
<i>FY 2013 Plans:</i> Complete remaining testing and preparation efforts to support launch of satellite 2. The MUOS activities planned for the Ground segment will include system software testing and fixes resulting from site testing; and ground security updates resulting from Information Assurance (IA) Vulnerability Alerts. Complete software installation, test, and certification of hardware/software at Niscemi site. Complete site acceptance testing, for Build 3 software (B3), at Wahiawa, Geraldton, Northwest, and Niscemi in preparation for launch of satellite 2. Complete acceptance testing of the MUOS follow-on waveform. Begin IA waveform assessment and remediation of findings.			
Accomplishments/Planned Programs Subtotals	391.382	243.913	145.923

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

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• WPN/2433: <i>Mobile User Objective System (MUOS)</i>	503.056	238.215	21.454	0.000	21.454	248.038	9.135	9.399	8.053	778.966	2,869.394

D. Acquisition Strategy

Two Component Advancement Development (CAD) contracts were awarded in Q4 FY 2002. A Risk Reduction & Design Development (RRDD) contract was awarded in September 2004 for the first two satellites, system engineering and associated ground infrastructure. Research Development Test & Evaluation, Navy (RDT&E,N) funds will be used to procure the first two satellites and to prepare the MUOS ground site located in Australia. Weapons Procurement, Navy (WPN) funds will be used to procure the remaining four satellites and launch services for all six satellites.

E. Performance Metrics

The RDT&E,N funding profile from contract award to completion is represented by the following efforts:

FY 2005-2006: System Engineering efforts associated with preparation and completion of the Preliminary Design Review (PDR); and preparation for the Critical Design Review (CDR).

FY 2007-2008: Completion of CDR phase; procure material and begin fabrication of satellites (Qty 2); and begin design and development of entire ground segment.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303109N: <i>Satellite Communications (Space)</i>	PROJECT 2472: <i>Mobile User Objective Sys (MUOS)</i>
FY 2009-2014: Continue assembly, integration and testing, launch and achieve On-Orbit Capability of satellites 1 and 2; develop and test initial and follow-on waveforms; complete ground system software development/final qualification and acceptance testing. Complete site acceptance test of Wahiawa, Australia, Northwest and Niscemi ground stations. Begin IA waveform assessment and remediation of findings.		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303109N: <i>Satellite Communications</i> (Space)	PROJECT 2472: <i>Mobile User Objective Sys (MUOS)</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
RRDD AOS Contract	C/CPAF	Lockheed Martin (LM):Sunnyvale, CA	3,161.715	222.822	Oct 2011	131.906	Nov 2012	-		131.906	138.712	3,655.155	Continuing
CE Contracts & Demos	C/FFP	LM / Raytheon / Spec Astro / Boeing:VAR	21.320	-		-		-		-	0.000	21.320	Continuing
CAD Contracts	C/FFP	LM / Raytheon:VAR	105.154	-		-		-		-	0.000	105.154	Continuing
AoA for MUOS	MIPR	Aerospace:El Segundo, CA	2.782	-		-		-		-	0.000	2.782	Continuing
Government Studies	MIPR	Aerospace:El Segundo, CA	0.711	-		-		-		-	0.000	0.711	Continuing
Crypto Procurement	MIPR	NSA:Fort Meade, MD	3.703	-		-		-		-	0.000	3.703	Continuing
UHF Augmentation	C/CPAF	Lockheed Martin (LM):Sunnyvale, CA	0.491	-		-		-		-	0.000	0.491	Continuing
Subtotal			3,295.876	222.822		131.906		-		131.906	138.712	3,789.316	

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
UFO TT&C Terminal Upgrades	WR	SSC PAC:San Diego, CA	10.692	-		-		-		-	0.000	10.692	Continuing
Facilities Modifications	WR	SSC LANT:Norfolk, VA	2.623	0.164	Oct 2011	-		-		-	0.000	2.787	Continuing
Australian Site Prep	C/FFP	Boeing:Brisbane, AUS	25.470	-		-		-		-	0.000	25.470	Continuing
Studies & Analyses (EELV)	MIPR	SMC/FMAIC:El Segundo, CA	0.825	-		-		-		-	0.000	0.825	Continuing
ISCS Integration	WR	NAVSOC:Point Mugu, CA	7.203	-		-		-		-	0.000	7.203	Continuing
Narrowband SATCOM SE Group (NSSEG) - MUOS N2N	WR	SSC LANT:Charleston, SC	1.869	-		-		-		-	0.000	1.869	Continuing
Subtotal			48.682	0.164		-		-		-	0.000	48.846	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303109N: <i>Satellite Communications</i> (Space)	PROJECT 2472: <i>Mobile User Objective Sys (MUOS)</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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 PAC:San Diego, CA	11.178	4.143	Nov 2011	4.267	Nov 2012	-		4.267	5.500	25.088	Continuing
Operational Test & Evaluation	WR	OPTEVFOR:Norfolk, VA	3.539	0.900	Nov 2011	1.335	Nov 2012	-		1.335	1.750	7.524	Continuing
Subtotal			14.717	5.043		5.602		-		5.602	7.250	32.612	

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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/CPAF	Accenture:San Diego, CA	135.592	-		-		-		-	0.000	135.592	Continuing
Contractor Engineering Support - FY2012	C/CPFF	Unknown:Unknown	-	10.525	Feb 2012	5.749	Nov 2012	-		5.749	1.050	17.324	Continuing
Government Engineering	WR	SSC PAC:San Diego, CA	30.883	3.326	Nov 2011	1.812	Nov 2012	-		1.812	9.400	45.421	Continuing
Program Management Support	C/CPAF	Booz Allen Hamilton:McLean, VA	41.321	-		-		-		-	0.000	41.321	Continuing
Program Management Support - FY2012	C/CPFF	Booz Allen Hamilton:McLean, VA	-	1.193	Oct 2011	0.654	Nov 2012	-		0.654	0.100	1.947	Continuing
Travel	WR	PMW 146:San Diego, CA	2.441	0.400	Oct 2011	0.200	Oct 2012	-		0.200	0.100	3.141	Continuing
Frequency Filing	C/FFP	ITU:Geneva, CH	0.855	0.440	Feb 2012	-		-		-	0.000	1.295	Continuing
IPA/ICAT	WR	Aerospace:El Segundo, CA	0.390	-		-		-		-	0.000	0.390	Continuing
Acquisition Workforce Fund	C/FP	Not Specified:Not Specified	2.454	-		-		-		-	0.000	2.454	Continuing
Subtotal			213.936	15.884		8.415		-		8.415	10.650	248.885	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy							DATE: February 2012				
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>			R-1 ITEM NOMENCLATURE PE 0303109N: <i>Satellite Communications (Space)</i>			PROJECT 2472: <i>Mobile User Objective Sys (MUOS)</i>					
	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	3,573.211	243.913		145.923		-		145.923	156.612	4,119.659	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy

DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY

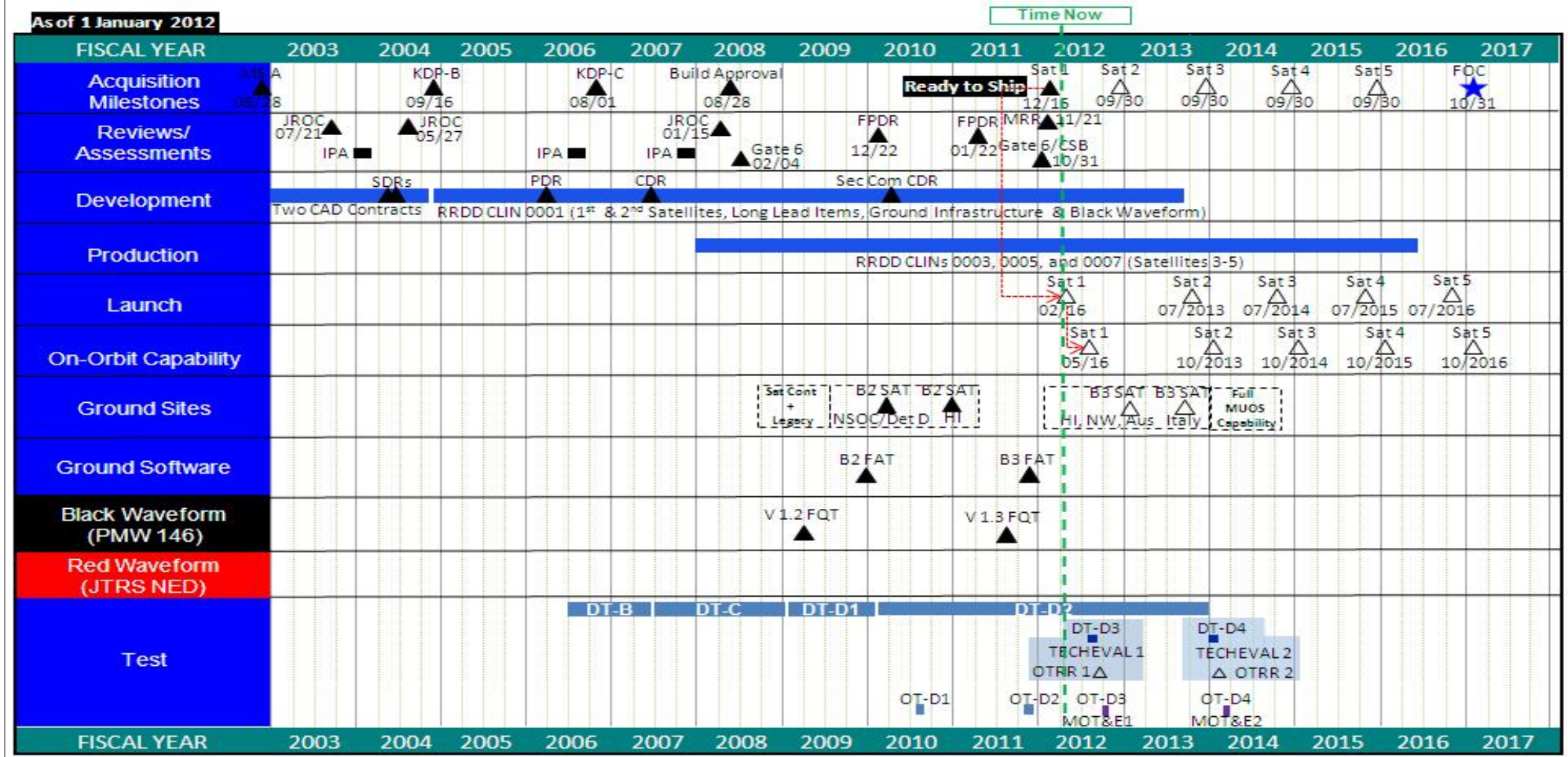
1319: Research, Development, Test & Evaluation, Navy
BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE

PE 0303109N: Satellite Communications (Space)

PROJECT

2472: Mobile User Objective Sys (MUOS)



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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303109N: <i>Satellite Communications</i> (<i>Space</i>)	PROJECT 2472: <i>Mobile User Objective Sys (MUOS)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2472				
Follow-on Production	2	2011	2	2011
Blackside Waveform V1.3 FQT	3	2011	3	2011
Operational Assessment (OT-D2)	4	2011	4	2011
Ground Software Build 3.1 FAT	4	2011	4	2011
Mission Readiness Review (MRR)	1	2012	1	2012
Ready to Ship date #1	1	2012	1	2012
Launch of Satellite #1 (MUOS 1)	2	2012	2	2012
On-Orbit Capability for Satellite #1 (MUOS 1)	3	2012	3	2012
DT-D3 Tech Eval 1	3	2012	3	2012
Operational Test Readiness Review (OTRR) #1	3	2012	3	2012
OT-D3 Multi-Service Operational Testing & Evaluation (MOT&E 1)	3	2012	4	2012
Ready to Ship date #2	4	2012	4	2012
Australia Build 3.1	1	2013	1	2013
Wahiawa Build 3.1	1	2013	1	2013
Northwest Build 3.1	1	2013	1	2013
Italy Build 3.1	4	2013	4	2013
Ready to Ship date #3	4	2013	4	2013
Launch of Satellite #2 (MUOS 2)	4	2013	4	2013
On-Orbit Capability for Satellite #2 (MUOS 2)	1	2014	1	2014
DT-D4 Tech Eval 2	1	2014	1	2014
Operational Test Readiness Review (OTRR) #2	1	2014	1	2014

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303109N: <i>Satellite Communications (Space)</i>	PROJECT 2472: <i>Mobile User Objective Sys (MUOS)</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
OT-D4 Multi-Service Operational Testing & Evaluation (MOT&E 2)	1	2014	1	2014
Launch of Satellite #3 (MUOS 3)	4	2014	4	2014
Ready to Ship date #4	4	2014	4	2014
On-Orbit Capability for Satellite #3 (MUOS 3)	1	2015	1	2015
Launch of Satellite #4 (MUOS 4)	4	2015	4	2015
Ready to Ship date #5	4	2015	4	2015
On-Orbit Capability for Satellite #4 (MUOS 4)	1	2016	1	2016
Launch of Satellite #5 (MUOS 5)	4	2016	4	2016
On-Orbit Capability for Satellite #5 (MUOS 5)	1	2017	1	2017
Full Operational Capability (FOC)	1	2017	1	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303138N: <i>Consolidated Afloat Network Ent Services(CANES)</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	42.417	24.855	16.749	-	16.749	15.852	15.015	14.117	14.347	Continuing	Continuing
0725: <i>Communication Automation</i>	-	-	1.334	-	1.334	1.005	1.021	1.001	1.018	Continuing	Continuing
9999: <i>Congressional Adds</i>	-	12.000	-	-	-	-	-	-	-	0.000	12.000
9C87: <i>CANES Integration</i>	42.417	12.855	15.415	-	15.415	14.847	13.994	13.116	13.329	284.653	410.626

Note

CANES is a Department of the Navy (DoN) efficiency initiative. CANES Military Intelligence Program (MIP) related funding under PE 0303238N investment ends in FY 2012. MIP requirements transition to PE 0303138N beginning in FY 2013.
 Project 0725 Communication Automation Automated Digital Network System (ADNS) funding was realigned from PE 0204163N to CANES PE 0303138N FY13 and out.
 Project 9999 Congressional Adds realigned from CANES FY12 OPN LI 2915.

A. Mission Description and Budget Item Justification

Consolidated Afloat Networks & Enterprise Services (CANES) is a DoN Efficiency Initiative and is the Navy's only Program of Record (POR) to replace existing afloat networks and provide the necessary infrastructure for applications, systems, and services to operate in the tactical domain. CANES is the technical and infrastructure consolidation of existing, separately managed afloat networks currently under PE 0204163N (LI 3050) Ship Communications Automation, including Integrated Shipboard Network Systems (ISNS), Combined Enterprise Regional Information Exchange System - Maritime (CENTRIXS-M), Sensitive Compartmented Information (SCI) Networks, and Submarine Local Area Network (SubLAN). These legacy afloat network designs are End of Life starting in FY 2012 and CANES will replace these existing, unaffordable, and obsolete networks.

The fundamental goal of CANES is to bring Infrastructure and Platform as a Service (IaaS / PaaS), within which current and future iterations of Tasking, Collection, Processing, Exploitation and Dissemination (TCPED) computing and storage capabilities will reside. CANES will provide complete infrastructure, inclusive of hardware, software, processing, storage and end user devices for Unclassified, Coalition, Secret and SCI for all basic network services (email, web, chat, collaboration) to a wide variety of Navy surface combatants, submarines, Maritime Operations Centers, and aircraft. In addition, approximately 36 hosted applications and systems inclusive of Command and Control, Intelligence, Surveillance and Reconnaissance, Information Operations, Logistics and Business domains require the CANES infrastructure to operate in the tactical environment. Integrating these applications and systems is accomplished through Application Integration (AI), the engineering process used to evaluate and validate compatibility between the CANES IaaS / PaaS and the Navy-validated applications, systems and services that will utilize the CANES infrastructure and services. Specific programs, such as Distributed Common Ground System - Navy (DCGS-N), Global Command and Control System - Maritime (GCCS-M), Naval Tactical Command Support System (NTCSS), and Undersea Warfare Decision Support System (USW-DSS), are dependent on the CANES Common Computing Environment (CCE) to field, host, and sustain their capability because they no longer provide their own hardware. CANES requires that ADNS field prior to or concurrently with CANES due to architectural reliance between the two programs.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303138N: <i>Consolidated Afloat Network Ent Services(CANES)</i>
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CANES will field on a rolling four year hardware baseline and a two year software baseline. CANES is based on the overarching concept of reducing the number of afloat networks and providing enhanced efficiency through a single engineering focus on integrated technical solutions. This will allow for streamlined acquisition, contracting test events, and significant lifecycle efficiencies through consolidation of multiple current configuration management baselines, logistics, and training efforts into a unified support structure.

In FY 2013, CANES RDT&E investment will continue to fund platform set 3 and 4 baseline development. Perform Developmental Testing (DT) and Initial Operational Test & Evaluation (IOT&E) on unit level platform in support of Full Deployment Decision (FDD) in 4QFY13. Continue testing events at Enterprise Engineering and Certification (E2C) lab on platform sets 2,3,4. Begin DT on force level baseline in support of Follow On Test and Evaluation (FOT&E) planned to occur in FY 2014. Continue hosted system integration testing and Application Integration (AI).

The Communications Automation Program - This project is a continuing program that provides for automation and communications upgrades for fleet tactical users. It includes Automated Digital Network System (ADNS) and High Frequency Internet Protocol/Sub Network Relay.

ADNS is the method by which tactical Navy units transfer Internet Protocol (IP) data to Navy and Department of Defense communities on the Global Information Grid (GIG). ADNS serves as a gateway to enable joint and coalition interoperability for these tactical assets and ensures GIG connectivity. ADNS allows unclassified, secret, top secret traffic, and various joint, allied, and coalition services to reconnect to the Defense Information Systems Network ashore via radio paths and pier connectivity.

FY13 funds will be used for ADNS interface design development, integration for network application and Radio Frequency (RF) paths and to complete Operational Testing on ADNS INC III Submarines.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303138N: <i>Consolidated Afloat Network Ent Services(CANES)</i>
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B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	63.563	12.906	15.663	-	15.663
Current President's Budget	42.417	24.855	16.749	-	16.749
Total Adjustments	-21.146	11.949	1.086	-	1.086
• Congressional General Reductions	-	-0.051			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	12.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.442	-			
• SBIR/STTR Transfer	-1.403	-			
• Program Adjustments	-	-	1.094	-	1.094
• Rate/Misc Adjustments	-	-	-0.008	-	-0.008
• Congressional General Reductions Adjustments	-0.301	-	-	-	-
• Congressional Directed Reductions Adjustments	-19.000	-	-	-	-

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

Project: 9999: *Congressional Adds*

Congressional Add: *CANES (Cong)*

Congressional Add Subtotals for Project: 9999

Congressional Add Totals for all Projects

	FY 2011	FY 2012
	-	12.000
	-	12.000
	-	12.000

Change Summary Explanation

Technical: Platform sets 1,2,3,4 added to further define phases of CANES system development efforts. Each platform set consists of different ship class design baselines. Operational Assessment (OA) replaced Operational Testing (OT). Developmental Test Assists (DTA) replaced Developmental Test (DT) events associated with Technical Insertion (TI). DTA scope is less than that of a full DT event since the test is only focused on the changes made to the design.

Funding:

CANES Military Intelligence Program (MIP) related funding under PE 0303238N investment ends in FY 2012. MIP requirements transition to PE 0303138N beginning in FY 2013.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	PE 0303138N: <i>Consolidated Afloat Network Ent Services(CANES)</i>

Communication Automation Automated Digital Network System (ADNS) Project 0725 was realigned from Program Element 0204163N to 0303138N in FY13 and out due to architectural reliance with CANES.

Schedule:

CANES Engineering and Manufacturing Development (EMD) contract completion, Limited Deployment (LD) contract option, Operational Assessment(OA) has been rephased. Follow-On Test and Evaluation (FOT&E) for Platform Set 2, Developmental Testing events added for Initial Operational Test and Evaluation (IOT&E), FOT&E and TI.

ADNS Inc II Full Operational Capability (FOC) and ADNS Inc III Submarine Fielding Decision are planned for FY13.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303138N: <i>Consolidated Afloat Network Ent Services(CANES)</i>	PROJECT 0725: <i>Communication Automation</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
0725: <i>Communication Automation</i>	-	-	1.334	-	1.334	1.005	1.021	1.001	1.018	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 is a continuing program that provides for automation and communications upgrades for Fleet tactical users.

Automated Digital Network System (ADNS) provides routing, switching, baseband, configuration and monitoring capabilities for interconnecting naval, coalition and joint enclaves worldwide. ADNS utilizes off the shelf equipment and network protocols as specified by the Joint Technical Architecture. ADNS Increment (INC) II provides capabilities of load balancing, radio frequency restoral, initial quality of service to include application prioritization, initial traffic management, and enhancements designed to maximize use of available bandwidth for surface, shore, and airborne platforms. ADNS INC III converges all Navy tactical voice, video, and data requirements into a converged IP data stream. ADNS INC III interoperates with higher bandwidth satellites, supporting up to 25 mega bytes per second (Mbps) of throughput on unit level ships and up to 50 Mbps on force level ships. INC III architecture also incorporates an IPv4/IPv6 dual stack and a cipher text security architecture to align to joint and coalition networks, in addition to greater security utilizing the High Assurance Internet Protocol (IP) Encryptor (HAIZE) devices. ADNS INC III serves as the Navy tactical interface for IP Networking with Joint Tactical Radio System, and Advanced Extremely High Frequency to include Consolidated Afloat Networks Enterprise Services (CANES). ADNS will investigate emerging technologies to integrate with additional Department of Defense C4I Programs to improve interstrike group networking and extend the network to the tactical edge.

FY13 funds will be used for ADNS interface design development, integration for network application and Radio Frequency (RF) paths and to complete Operational Testing on ADNS INC III Submarines.

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

	FY 2011	FY 2012	FY 2013
Title: Automated Digital Network System	-	-	1.334
Articles:			0
FY 2013 Plans: Continue the development of updated system and subsystem interface designs for integration with new SATCOM and RF paths as they emerge. Test and integrate the evolving network applications as they are incorporated into the C4I architecture; actions will include examining and testing interfaces with Enterprise Network Management System, transition to IPv6, and final phase out of serial links. Continue the evaluation of technology insertion capabilities to the ADNS system to enhance network mobility for aircraft in a Joint Aerial Layer Network (JALN) environment. Integration of Super High Frequency (SHF) Split IP. Interface testing for emerging Line of Sight (LOS) links. Complete Video and Voice Over Secure Internet Protocol (VVoSIP) integration into the ADNS boundary. Complete Operational Testing on ADNS INC III Submarines.			
Accomplishments/Planned Programs Subtotals	-	-	1.334

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303138N: <i>Consolidated Afloat Network Ent Services(CANES)</i>	PROJECT 0725: <i>Communication Automation</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPN/2915: <i>Communication Automation</i>	0.000	0.000	57.770	0.000	57.770	44.470	46.134	40.262	42.492	0.000	231.128
• OPN/3050: <i>Ship Comm Auto</i>	33.692	53.614	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	87.306

D. Acquisition Strategy

Automated Digital Network System (ADNS): Evolutionary acquisition approach with overlapping development and implementation phases for defined Increment I, II, and III baselines. Increment I, II, and III will use competitively awarded contracts to implement changes consistent with acquisition initiatives. ADNS leverages Commercial Off The Shelf (COTS) products while capitalizing on acquisition reform initiatives to achieve material savings in the logistics, installation, integration and training areas. Where feasible, differing types of advantageous contract vehicles will be used to provide flexibility, decreased contract administrative costs, and encourage acquisition streamlining through the use of COTS products.

E. Performance Metrics

ADNS - Included in the ADNS program goals are the improvements to bandwidth throughput, to connectivity to multiple Radio Frequency (RF) paths, greater security, and system capability delivered within a smaller form factor. The ADNS program will, at a minimum, provide bandwidth throughput enhancements resulting in an increase from 2 megabytes per second (Mbps) to 25 Mbps. ADNS will also provide the ability to transport data across multiple paths simultaneously vice the current limitations of single or secondary paths. ADNS will reduce the rack unit (U) requirement from 81U to 54U and investigate the ability to reduce this Unit allocation for smaller Navy platforms. ADNS will provide greater security posture by encrypting each enclave, and securing the core via cipher text.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303138N: <i>Consolidated Afloat Network Ent Services(CANES)</i>	PROJECT 0725: <i>Communication Automation</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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-ADNS	WR	SSC:PAC/LANT	-	-		0.463	Nov 2012	-		0.463	0.000	0.463	
Integration and Test-ADNS	WR	SSC:PAC/LANT	-	-		0.461	Dec 2012	-		0.461	0.000	0.461	
Subtotal			-	-		0.924		-		0.924	0.000	0.924	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 & Evaluation-ADNS	WR	COMOPTEVFOR:Norfolk, VA	-	-		0.154	Nov 2012	-		0.154	0.000	0.154	
Subtotal			-	-		0.154		-		0.154	0.000	0.154	

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	TBD:TBD	-	-		0.256	Oct 2012	-		0.256	0.000	0.256	
Subtotal			-	-		0.256		-		0.256	0.000	0.256	

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total		Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals			-	-		1.334		-		1.334	0.000	1.334	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303138N: <i>Consolidated Afloat Network Ent Services(CANES)</i>	PROJECT 0725: <i>Communication Automation</i>
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Fiscal Year	2011				2012				2013				2014				2015				2016				2017							
	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	FRPDR INC III △		Limited Proc Decision INC III Subs △		Fielding Decision INC II Air △			Fielding Decision INC III Subs △																								
System Development	Interface Design Development and Integration with Network Applications																															
	Interface Design Development and Integration with Future SATCOM and Radio Frequency (RF) paths																															
Test & Evaluation Milestones	INC III Subs OA △				DT INC II Air △			DT INC III Subs △																								
Operational Assessment (OA) Development Test Operational Test					OT INC II Air △			OT INC III Subs △																								
Production	Fielding & Sustainment - INC III/IIa/IIb/ Airborne																															
	INCR III - LRIP Fielding and Sustainment				Fielding & Sustainment INC III Surface																											
	Fielding & Sustainment INC III Subs																															
Deliveries																																

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303138N: <i>Consolidated Afloat Network Ent Services(CANES)</i>	PROJECT 0725: <i>Communication Automation</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 0725				
ADNS: INCREMENT III_Interface Design Development with SATCOM and Radio Frequency (RF) paths	1	2011	4	2017
ADNS: INCREMENT III_Fielding and Sustainment Inc III Surface	1	2012	4	2017
ADNS: Increment III_Subs Operational Testing (OT)	4	2012	1	2013
ADNS: INCREMENT III_Subs Fielding Decision	1	2013	1	2013
ADNS: INCREMENT III_Subs Fielding and Sustainment	1	2013	4	2017
ADNS: INCREMENT II_Full Operational Capability	1	2013	1	2013
ADNS: INCREMENT IIa_Fielding and Sustainment (Inc II/IIa/IIb) Airborne	1	2011	1	2013
ADNS: INCREMENT III_Interface Design Development with Network Applications	4	2012	1	2013

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303138N: <i>Consolidated Afloat Network Ent Services(CANES)</i>	PROJECT 9999: <i>Congressional Adds</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
9999: <i>Congressional Adds</i>	-	12.000	-	-	-	-	-	-	-	0.000	12.000
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

Important to note that activities occurring in Project 9C87 are the same as Project 9999. Funds in Project 9999 are from a Navy request to Congress to transfer funding from CANES PE 0303138N LI 2915 to PE 0303138N Project 9C87 to fund Engineering and Manufacturing Development (EMD) efforts that shifted to FY12. In addition, the RDT&E will fund Operational Assessment efforts.

A. Mission Description and Budget Item Justification

Consolidated Afloat Networks & Enterprise Services (CANES) is a Department of Navy (DoN) Efficiency Initiative and is the Navy's only Program of Record (POR) to replace existing afloat networks and provide the necessary infrastructure for applications, systems, and services to operate in the tactical domain. CANES is the technical and infrastructure consolidation of existing, separately managed afloat networks currently under PE 0204163N (LI 3050) Ship Communications Automation, including Integrated Shipboard Network Systems (ISNS), Combined Enterprise Regional Information Exchange System - Maritime (CENTRIXS-M), Sensitive Compartmented Information (SCI) Networks, and Submarine Local Area Network (SubLAN). These legacy afloat network designs are End of Life starting in FY 2012 and CANES will replace these existing, unaffordable, and obsolete networks.

The fundamental goal of CANES is to bring Infrastructure and Platform as a Service (IaaS / PaaS), within which current and future iterations of Tasking, Collection, Processing, Exploitation and Dissemination (TCPED) computing and storage capabilities will reside. CANES will provide complete infrastructure, inclusive of hardware, software, processing, storage and end user devices for Unclassified, Coalition, Secret and SCI for all basic network services (email, web, chat, collaboration) to a wide variety of Navy surface combatants, submarines, Maritime Operations Centers, and Aircraft. In addition, approximately 36 hosted applications and systems inclusive of Command and Control, Intelligence, Surveillance and Reconnaissance, Information Operations, Logistics and Business domains require the CANES infrastructure to operate in the tactical environment. Integrating these applications and systems is accomplished through Application Integration (AI), the engineering process used to evaluate and validate compatibility between the CANES IaaS / PaaS and the Navy-validated applications, systems and services that will utilize the CANES infrastructure and services. Specific programs, such as Distributed Common Ground System - Navy (DCGS-N), Global Command and Control System - Maritime (GCCS-M), Naval Tactical Command Support System (NTCSS), and Undersea Warfare Decision Support System (USW-DSS), are dependent on the CANES Common Computing Environment (CCE) to field, host, and sustain their capability because they no longer provide their own hardware. CANES requires that ADNS field prior to or concurrently with CANES due to architectural reliance between the two programs.

CANES will field on a rolling four year hardware baseline and a two year software baseline. CANES is based on the overarching concept of reducing the number of afloat networks and providing enhanced efficiency through a single engineering focus on integrated technical solutions. This will allow for streamlined acquisition, contracting, and test events, and significant lifecycle efficiencies through consolidation of multiple current configuration management baselines, logistics, and training efforts into a unified support structure.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303138N: <i>Consolidated Afloat Network Ent Services(CANES)</i>	PROJECT 9999: <i>Congressional Adds</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2011	FY 2012
Congressional Add: CANES (Cong)	-	12.000
FY 2012 Plans: Complete development of statutory and regulatory acquisition documentation to achieve CANES MS C. Revise Cost Analysis Requirement Description (CARD) and life Cycle Cost Estimate (LCCE) in support of Navy's Service Cost Position (SCP) for MS C. Conduct OA in support of MS C. Preparation begins for Initial Operational Test and Evaluation (IOT&E) on Unit level platforms to complete operational testing. Continue hosted system integration testing and Application Integration (AI) as they migrate to CANES baseline. Prepare Enterprise Engineering and Certification (E2C) lab for testing on platform set 1 and 2 baselines. Commence Source Selection activities associated with Full Deployment contract and development of platform set 3 and 4 baselines. Achieve MS C. Systems engineering efforts following down select to complete functional baselines, updates and corrections to technical data packages.		
Congressional Adds Subtotals	-	12.000

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

N/A

D. Acquisition Strategy

CANES was identified as an ACAT IAM MAIS. Formal program initiation occurred at MS B (2QFY11). The program office is employing a multiple-phase, multiple-award down-select contract strategy to reduce program risks and maintain competition in both design development and production during contract performance. Two competitive contracts have been awarded to design, develop, and deliver all hardware and the associated operating system, virtualization and other commercial software needed to deliver a functional network. As the program accomplishes Engineering and Manufacturing Development (EMD), a down-select will be conducted to choose the best design for Limited Deployment (LD). At the completion of LD, a separate full and open contract will be awarded for Full Deployment (FD).

E. Performance Metrics

Early RDT&E investment and sustainment of dual design contractors through the development phase will save 10-30% of Total Ownership Cost (TOC) over the life cycle of the program. Cost avoidance throughout the life of the program is based on performance gains that are measured (not quantified) by 1) reducing the number of networks through the use of mature, certified, cross domain technologies; 2) reducing the infrastructure footprint and associated costs for hardware afloat; and 3) providing increased capability to meet current and projected warfighter requirements.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303138N: <i>Consolidated Afloat Network Ent Services(CANES)</i>	PROJECT 9C87: <i>CANES Integration</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
9C87: <i>CANES Integration</i>	42.417	12.855	15.415	-	15.415	14.847	13.994	13.116	13.329	284.653	410.626
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

CANES is a Department of the Navy (DoN) efficiency initiative. CANES Military Intelligence Program (MIP) related funding under PE 0303238N investment ends in FY 2012. MIP requirements transition to PE 0303138N beginning in FY 2013.

A. Mission Description and Budget Item Justification

Consolidated Afloat Networks & Enterprise Services (CANES) is a Department of Navy (DoN) Efficiency Initiative and is the Navy's only Program of Record (POR) to replace existing afloat networks and provide the necessary infrastructure for applications, systems, and services to operate in the tactical domain. CANES is the technical and infrastructure consolidation of existing, separately managed afloat networks currently under PE 0204163N (LI 3050) Ship Communications Automation, including Integrated Shipboard Network Systems (ISNS), Combined Enterprise Regional Information Exchange System - Maritime (CENTRIXS-M), Sensitive Compartmented Information (SCI) Networks, and Submarine Local Area Network (SubLAN). These legacy afloat network designs are End of Life starting in FY 2012 and CANES will replace these existing, unaffordable, and obsolete networks.

The fundamental goal of CANES is to bring Infrastructure and Platform as a Service (IaaS / PaaS), within which current and future iterations of Tasking, Collection, Processing, Exploitation and Dissemination (TCPED) computing and storage capabilities will reside. CANES will provide complete infrastructure, inclusive of hardware, software, processing, storage and end user devices for Unclassified, Coalition, Secret and SCI for all basic network services (email, web, chat, collaboration) to a wide variety of Navy surface combatants, submarines, Maritime Operations Centers, and Aircraft. In addition, approximately 36 hosted applications and systems inclusive of Command and Control, Intelligence, Surveillance and Reconnaissance, Information Operations, Logistics and Business domains require the CANES infrastructure to operate in the tactical environment. Integrating these applications and systems is accomplished through Application Integration (AI), the engineering process used to evaluate and validate compatibility between the CANES IaaS / PaaS and the Navy-validated applications, systems and services that will utilize the CANES infrastructure and services. Specific programs, such as Distributed Common Ground System - Navy (DCGS-N), Global Command and Control System - Maritime (GCCS-M), Naval Tactical Command Support System (NTCSS), and Undersea Warfare Decision Support System (USW-DSS), are dependent on the CANES Common Computing Environment (CCE) to field, host, and sustain their capability because they no longer provide their own hardware. CANES requires that ADNS field prior to or concurrently with CANES due to architectural reliance between the two programs.

CANES will field on a rolling four year hardware baseline and a two year software baseline. CANES is based on the overarching concept of reducing the number of afloat networks and providing enhanced efficiency through a single engineering focus on integrated technical solutions. This will allow for streamlined acquisition, contracting, and test events, and significant lifecycle efficiencies through consolidation of multiple current configuration management baselines, logistics, and training efforts into a unified support structure.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303138N: <i>Consolidated Afloat Network Ent Services(CANES)</i>	PROJECT 9C87: <i>CANES Integration</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: CANES Integration	42.417	12.855	15.415
Articles:	0	0	0
FY 2011 Accomplishments: Continued development of CANES statutory and regulatory acquisition documentation to achieve Milestone (MS) C. Continued revision of CARD and LCCE to support MS C. Conducted Developmental Testing (DT) and prepared for Operational Assessment (OA) event in support of MS C. Continued Engineering and Manufacturing Development (EMD) contract development of platform set 1 and 2 baseline. Developed Request for Proposal for Full Deployment contract and associated source selection activities. Achieved Milestone (MS) B.			
FY 2012 Plans: Complete development of statutory and regulatory acquisition documentation to achieve CANES MS C. Revise CARD and LCCE in support of Navy's Service Cost Position (SCP) for MS C. Conduct OA in support of MS C. Preparation begins for Initial Operational Test and Evaluation (IOT&E) on Unit level platforms to complete operational testing. Continue hosted system integration testing and Application Integration (AI) as they migrate to CANES baseline. Prepare Enterprise Engineering and Certification (E2C) lab for testing on platform set 1 and 2 baselines. Commence Source Selection activities associated with Full Deployment contract and development of platform set 3 and 4 baselines. Achieve MS C.			
FY 2013 Plans: Continue platform set 3 and 4 baseline development. Perform DT and IOT&E in support of Full Deployment Decision (FDD) in 4QFY13 on unit level platform. Continue testing events at E2C lab on platform sets 1, 2, 3, 4. Begin DT on force level baseline in support of Follow-On Test and Evaluation (FOT&E) planned to occur in FY 2014. Continue hosted system integration testing and AI.			
Accomplishments/Planned Programs Subtotals	42.417	12.855	15.415

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2011	FY 2012	FY 2013	FY 2013	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Cost To	
			Base	OCO	Total					Complete	Total Cost
• OPN/2915: <i>CANES</i>	10.208	96.088	283.628	0.000	283.628	314.812	291.514	351.225	342.807	4,893.728	6,585.187
• OPN/2925: <i>CANES Intell</i>	3.123	72.313	79.427	0.000	79.427	60.666	69.830	56.274	60.338	1,045.823	1,447.794
• RDTE/0303238N: <i>CANES MIP</i>	9.334	6.602	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	15.936
• RDTE/0303138N: <i>CANES (Cong)</i>	0.000	12.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	12.000

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	PE 0303138N: <i>Consolidated Afloat Network Ent Services(CANES)</i>	9C87: <i>CANES Integration</i>

D. Acquisition Strategy

CANES was identified as an ACAT IAM MAIS. Formal program initiation occurred at MS B (2QFY11). The program office is employing a multiple-phase, multiple-award down-select contract strategy to reduce program risks and maintain competition in both design development and production during contract performance. Two competitive contracts have been awarded to design, develop, and deliver all hardware and the associated operating system, virtualization and other commercial software needed to deliver a functional network. As the program accomplishes Engineering and Manufacturing Development (EMD), a down-select will be conducted to choose the best design for Limited Deployment (LD). At the completion of LD, a separate full and open contract will be awarded for Full Deployment (FD).

E. Performance Metrics

Early RDT&E investment and sustainment of dual design contractors through the development phase will save 10-30% of Total Ownership Cost (TOC) over the life cycle of the program. Cost avoidance throughout the life of the program is based on performance gains that are measured (not quantified) by 1) reducing the number of networks through the use of mature, certified, cross domain technologies; 2) reducing the infrastructure footprint and associated costs for hardware afloat; and 3) providing increased capability to meet current and projected warfighter requirements.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303138N: <i>Consolidated Afloat Network Ent Services(CANES)</i>	PROJECT 9C87: <i>CANES Integration</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	Lockheed Martin:San Diego, CA	20.962	1.598	Nov 2011	-		-		-	0.000	22.560	22.560
Primary Hardware Development	C/CPFF	Northrop Grumman:Reston, VA	23.644	1.259	Nov 2011	-		-		-	0.000	24.903	24.903
Primary Hardware Development	WR	SPAWAR Systems Center:San Diego, CA	16.171	2.854	Dec 2011	2.887	Nov 2012	-		2.887	61.377	83.289	83.289
Primary Hardware Development	C/FFP	UNKNOWN:UNKNOWN	-	1.086	Feb 2012	7.428	Dec 2012	-		7.428	157.921	166.435	166.435
Primary Software Development	WR	SPAWAR Systems Center:San Diego, CA	-	1.576	Oct 2011	1.545	Dec 2012	-		1.545	32.847	35.968	35.968
Systems Engineering	WR	SPAWAR Systems Center:San Diego, CA and Charleston, SC	13.986	2.359	Oct 2011	1.738	Nov 2012	-		1.738	36.950	55.033	55.032
Systems Engineering	MIPR	US ARMY CECOM (MITRE):San Diego, CA	0.891	0.709	Oct 2011	0.851	Nov 2012	-		0.851	18.091	20.542	20.542
Systems Engineering	C/CPFF	BAH:San Diego, CA	-	0.690	Nov 2011	-		-		-	0.000	0.690	0.690
Subtotal			75.654	12.131		14.449		-		14.449	307.186	409.420	409.419

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 & Design	MIPR	Washington HQ Services:Washington DC	0.650	-		-		-		-	0.000	0.650	0.650
Subtotal			0.650	-		-		-		-	0.000	0.650	0.650

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303138N: <i>Consolidated Afloat Network Ent Services(CANES)</i>	PROJECT 9C87: <i>CANES Integration</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	MIPR	JITC:Fairfax, VA	0.233	0.410	Oct 2011	0.196	Nov 2012	-		0.196	4.167	5.006	5.007
Operational Test & Evaluation	WR	COMOPTEVFOR:Norfolk, VA and Washington, DC	0.607	0.210	Feb 2012	0.252	Nov 2012	-		0.252	5.355	6.424	6.424
Subtotal			0.840	0.620		0.448		-		0.448	9.522	11.430	11.431

Remarks
JITC Cost to Complete listed as Cont, due to anticipated Developmental Test Assists (DTA) planned in the FYDP.

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	SPAWAR Systems Center:San Diego, CA and Charleston, SC	2.742	-		-		-		-	0.000	2.742	2.742
Program Management & Acquisition Support	C/CPFF	Systems Research & Application:San Diego, CA	3.969	0.104	Oct 2011	0.518	Oct 2012	-		0.518	10.948	15.539	15.536
Financial Management Support	C/CPFF	INDUS Technology:San Diego, CA	1.167	-		-		-		-	0.000	1.167	1.167
Cost Estimation and Analyses	C/CPFF	Booz Allen Hamilton:San Diego, CA	1.420	-		-		-		-	0.000	1.420	1.420
Logistics Support	C/CPFF	TCI:San Diego, CA	1.298	-		-		-		-	0.000	1.298	1.299
Subtotal			10.596	0.104		0.518		-		0.518	10.948	22.166	22.164

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		87.740	12.855		15.415		-	15.415	327.656	443.666	443.664

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303138N: <i>Consolidated Afloat Network Ent Services(CANES)</i>	PROJECT 9C87: <i>CANES Integration</i>
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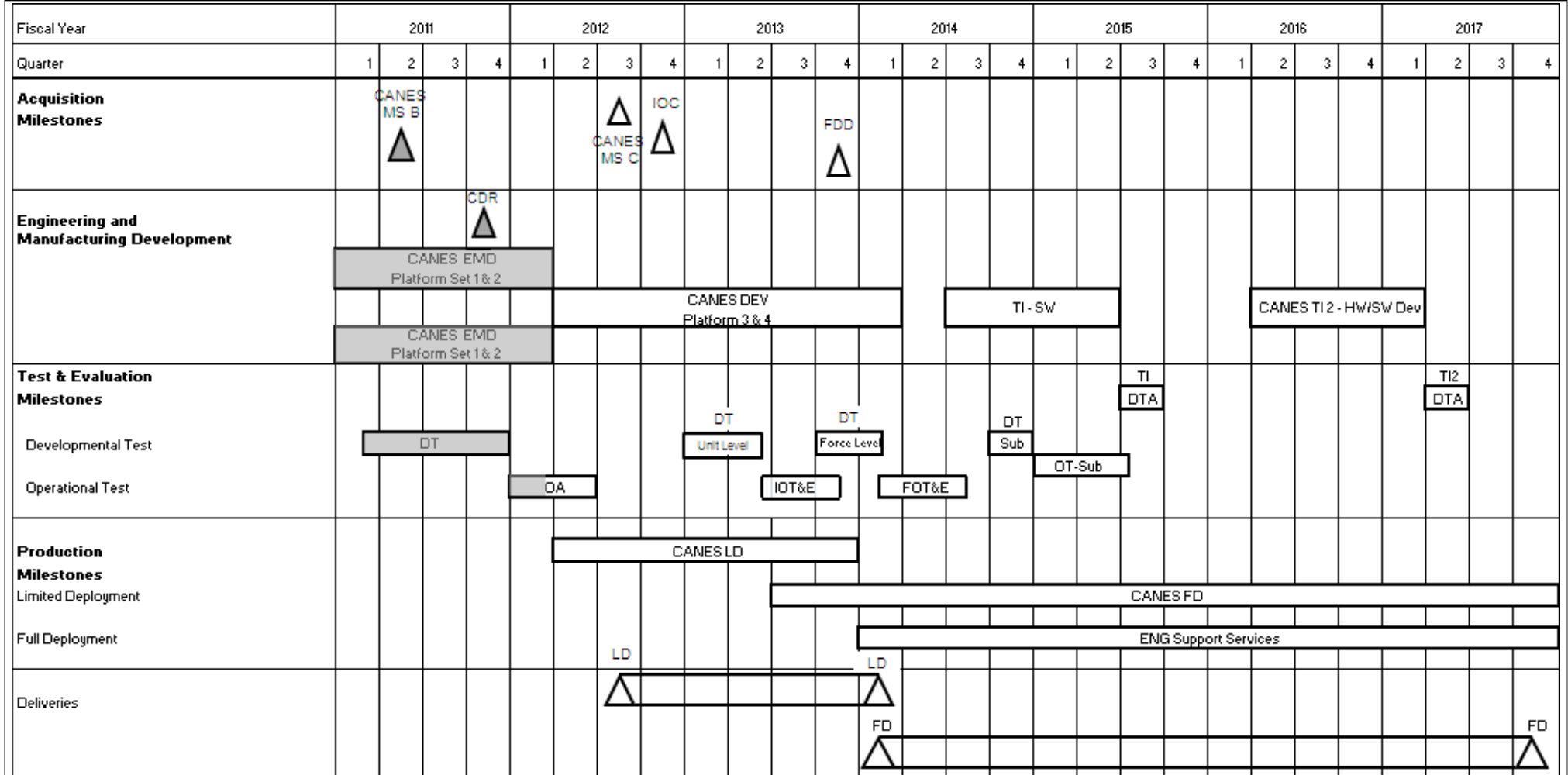
	Total Prior Years Cost	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
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Remarks
 2QFY12 UNKNOWN will be defined after down-select to one contractor at the completion of the Engineering and Manufacturing Development (EMD) competitive contract. This winning prime contractor will be selected for the Limited Deployment (LD) option(s) and to continue development of additional platform set baselines.

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303138N: <i>Consolidated Afloat Network Ent Services(CANES)</i>	PROJECT 9C87: <i>CANES Integration</i>
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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303138N: <i>Consolidated Afloat Network Ent Services(CANES)</i>	PROJECT 9C87: <i>CANES Integration</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 9C87				
Acquisition Milestone - CANES Milestone (MS) B	2	2011	2	2011
Acquisition Milestone - CANES MS C	3	2012	3	2012
Acquisition Milestone - Initial Operational Capability (IOC)	4	2012	4	2012
Acquisition Milestone - Full Deployment Decision Review (FDD)	4	2013	4	2013
Engineering and Manufacturing Development - Critical Design Review (CDR)	4	2011	4	2011
Engineering and Manufacturing Development - Platform Set 1 & 2 (Dev 1)	1	2011	1	2012
Engineering and Manufacturing Development - Platform Set 1 & 2(Dev 2)	1	2011	1	2012
Engineering and Manufacturing Development - Platform Set 3 & 4	2	2012	1	2014
Engineering and Manufacturing Development - Technical Insertion (TI) SW Development	3	2014	2	2015
Engineering and Manufacturing Development - Technical Insertion 2 Hardware (HW)/ SW Development	2	2016	1	2017
Developmental Test	1	2011	4	2011
Operational Test - Operational Assessment (OA)	1	2012	2	2012
Developmental Test - Unit Level	1	2013	2	2013
Operational Test - Initial Operational Test & Evaluation (IOT&E)	2	2013	4	2013
Developmental Test - Force Level	4	2013	1	2014
Operational Test - FOT&E	1	2014	3	2014
Developmental Test - Sub	4	2014	4	2014
Operational Test - Sub	1	2015	3	2015
Development Test Assist - TI	3	2015	3	2015
Development Test Assist- TI2	2	2017	2	2017

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303138N: <i>Consolidated Afloat Network Ent Services(CANES)</i>	PROJECT 9C87: <i>CANES Integration</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Production Milestone - Limited Deployment (LD)	2	2012	4	2013
Production Milestone - Full Deployment (FD)	3	2013	4	2017
Production Milestone - Eng Support Services	1	2014	4	2017
Deliveries - Limited Deployment (LD)	3	2012	1	2014
Deliveries - Full Deployment (FD)	1	2014	4	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	24.988	37.196	26.307	-	26.307	26.532	25.984	25.314	25.754	Continuing	Continuing
0734: <i>Communications Security R&D</i>	22.077	22.418	23.641	-	23.641	23.771	23.326	22.637	23.021	Continuing	Continuing
3230: <i>Information Assurance</i>	2.911	2.778	2.666	-	2.666	2.761	2.658	2.677	2.733	Continuing	Continuing
9999: <i>Congressional Adds</i>	-	12.000	-	-	-	-	-	-	-	0.000	12.000

A. Mission Description and Budget Item Justification

Information Systems Security Program (ISSP) ensures the protection of Navy and joint cyberspace systems from exploitation and attack. Cyberspace systems include wired and wireless telecommunications systems, Information Technology (IT) systems, and the content processed, stored, or transmitted therein. ISSP includes protection of the Navy's National Security Systems and Information (NSSI).

ISSP is the Navy's implementation of statutory and regulatory requirements specified in Federal Information Security Management Act of 2002 (FISMA, 44 U.S.C. section 3541), the Computer Security Act of 1987 (Public Law 100-235), Privacy Act of 1974 (5 U.S.C. section 552a, Public Law No. 93-579), National Security Act of 1947 (Public Law 235), Comprehensive National Cyber security Initiative (CNCI) National Security Presidential Directive 54/Homeland Security Presidential Directive 23 (NSPD-54/ HSPD-23), National Security Directive 42, Presidential Decision Directive 63, Executive Order 13526, Appendix III of Office of Management and Budget (OMB) Circular A-130 Revised, Committee for National Security Systems (CNSS) Policy 22, Chairman Joint Chiefs of Staff Instructions 6510.01F and 6510.02D, and Department of Defense (DoD) Directives 8500.01E, O-8530.01, and 8570.01.

ISSP activities address the risk management of cyberspace defined in "The National Military Strategy for Cyberspace Operations", Chairman of the Joint Chiefs of Staff, Dec 2006, and of defensive Information Operations (IO) defined in Joint Publication 3-13; including the capabilities to protect, detect, restore, and respond. ISSP supports the entire Naval cyberspace domain from the mobile forward-deployed subscriber, through the ashore supporting critical information infrastructure, and the interconnection with other cyberspace domains. The interconnectivity of naval and joint networks, connections to allied and coalition partners, connections to the public information infrastructure, and their use in naval and joint war fighting means that Navy cyberspace is a higher value and more vulnerable target. Navy cyber systems face advanced attacks involving malicious changes to critical information, changes to the functionality of critical systems, denial of service (including jamming), and the destruction of systems and networks. Since many Naval cyber systems are based on commercially available technologies, an adversary often has access to the technologies they want to exploit.

Rapid changes in the underlying commercial and government cyber infrastructures makes cyber security an increasingly complex and dynamic problem. ISSP provides the Navy's war fighter the essential information trust characteristics of availability, confidentiality, integrity, authentication, and non-repudiation. Information Assurance (IA), a key supporting cyber security activity, must evolve quickly to meet the rapidly evolving threats and vulnerabilities. Implementing ISSP requires rapid acquisition approaches to stay ahead of nation-states, terrorists, and criminal organization adversaries, among others.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>
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The ISSP program provides the Navy with the following cyber security elements: (1) defense of NSSI; (2) assured separation of information levels and user communities, including allied, coalition, non-Governmental, Defense Industrial Base, and other public partners; (3) technologies supporting the Navy's Computer Network Defense Service Providers (CNDSP) operations; (4) assurance use of the Navy's telecommunications infrastructure and the wireless spectrum; (5) assurance of joint user cyberspace domains, using a defense-in-depth architecture; (6) assurance of the critical computing base and information store; and, (7) supporting assurance technologies, including a Public Key Infrastructure (PKI). The ISSP program must be rapid, predictive, adaptive, and tightly coupled to cyberspace technology. Through modeling and simulation of Department of Defense (DoD) and commercial cyberspace systems evolution, the ISSP program provides architectures, products, and services based on mission impacts, information criticality, threats, vulnerabilities, and required defensive countermeasure capabilities.

All ISSP RDT&E efforts comply with the National Technology Transfer and Advancement Act of 1995 (Public Law 104-113) as implemented through Office of Management and Budget (OMB) Circular A-119 of February 10, 1998, DoD Instruction 4120.24, Defense Standardization Program (DSP), and DoD Instruction 4120.3-M, Defense Standardization Program Policies and Procedures. The predominant commercial standards bodies in ISSP-related matters include International Organization for Standardization, American National Standards Institute, Institute of Electrical and Electronics Engineers, Internet Engineering Task Force, World Wide Web Consortium, and National Institute of Standards and Technologies. The joint interoperability required in today's telecommunications systems makes standards compliance a must and the ISSP RDT&E program complies with the joint technical architecture. The FORCEnet architecture and standards documents reflect this emphasis on interoperable standards.

The connection of FORCEnet with the DoD Global Information Grid (GIG) requires all ISSP RDT&E activities to adopt a minimum standard of "best commercial IA practices." The ISSP program examines commercial technologies to determine their fit within Navy architectures, provides feedback to vendors about what the Navy requires, and participates in the standards bodies themselves. When necessary to protect mission critical systems specified in the Clinger/Cohen Act, ISSP RDT&E develops or tailors commercial and government technologies, standards, and processes to meet Navy-unique requirements; prototypes systems or portions of systems and examines their utility in operational Navy settings; and, provides Information Assurance (IA) expertise and engineering to Navy and joint information system developments. All ISSP technology development efforts endeavor to solve specific Navy and joint IA problems using techniques that speed transition to procurement as soon as possible.

Maritime Operations Center (MOC) will respond to new technologies and advanced hardware and software tools to support the development and deployment towards automated autonomous Computer Network Operations (CNO) Network Operations (NetOps).

Justification for Budget Activity: This program is funded under Operational Systems Development because it encompasses engineering and manufacturing development for the upgrade and integration of existing, operational systems. This includes cryptographic systems required to protect information defined in Title 40 United States Code (USC) Chapter 25 Sec 1452, and implements requirements in Executive Orders 12333 and 12958 and National Security Decision Directive 145.

Major focus areas in FY13:

Computer Network Defense (CND) - Continue to ensure that security of Navy networks meet the mandates and initiatives of DoD for securing the Global Information Grid (GIG). Continue to develop, integrate, and test defense-in-depth and situational awareness technologies for knowledge-empowered CND operations for afloat

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	PE 0303140N: <i>Information Sys Security Program</i>

and ashore platforms. Continue to develop new capabilities into the Navy's Command and Control (C2) architecture via (Maritime Tactical Command and Control (MTC2)) and provide technical guidance to ensure CND requirements are met by Consolidated Afloat Network Enterprise Service (CANES). Continue the development and integration of DoD defined tools and capabilities including automation of reporting, monitoring, analysis and response as well as providing modernized patch management and host based security agent tools. For Maritime Operation Center (MOC) efforts in FY13, CND will leverage the Ozone Widget framework and the US Cyber Command Cyber Pilot architecture to deliver visualization and analysis tools in support of a NetOps COP at the C10F MOC.

CND: Maritime Operations Center (MOC) - Assess the cyberspace network operations information dominance roadmap and as is architecture. Research government and industry automated autonomous information environment NetOps Common Operational Picture (COP) set of tools to provide the MOC the ability to maintain Command and Control (C2) of secure Communications Systems (CS) and conduct C2 Cyberspace NetOps. Integrate Cyberspace NetOps in the "to be" Navy C2 architecture.

Cryptographic (Crypto)/Crypto Modernization - Continue the Link-22 Modernized Link Level Communications Security (COMSEC) (MLLC), Very High Frequency (VHF)/Ultra High Frequency (UHF) Wideband Tactical Secure Voice Cryptologic Equipment (VINSON)/Advanced Narrowband Digital Voice Terminal (ANDVT) Cryptographic Modernization (VACM), and Link-16 CM development efforts, and start the Suite B Navy implementation, Crypto Priority (Red) List, Key Management Infrastructure (KMI) Awareness for devices (e.g., iApp development), and Navy Crypto Future Requirements development efforts. Continue development of a crypto modernization plan for transmission security (TRANSEC) with National Security Agency (NSA) and other services.

Key Management Infrastructure (KMI) - Continue KMI transition planning, strategy and requirements definition for incorporation of other KMI roles into Navy architecture. Begin capability, engineering development and verification testing support to KMI Capability Increment (CI)-2 Spiral 2 Spin 2. Continue supporting KMI transition working group meetings, Working Integrated Product Teams (WIPTs), Joint Working Groups (JWG), and developing white papers and supporting documentation for KMI. Provide requirements definition support of the next generation fill device and KMI CI-3. Investigate alternative KMI architecture implementations for submarine and other communities within the Navy. Provide engineering and analysis to a centralized configuration management and Crypto unit inventory tracking tool which will improve Electronic Key Management System (EKMS) and Crypto product management. Provide engineering and analysis to the intermediary Application (iApp) which will enhance KMI secure communications.

Public Key Infrastructure (PKI) - Continue to develop Secret Internet Protocol Router Network (SIPRNet) PKI solutions, including the SIPRNet Validation Authority and Hardware Token. Research and test Defense Information Systems Agency (DISA) Online Certificate Status Protocol (OCSP) enhancements for certificate authentication in the Navy afloat and ashore environments. Ensure compatibility and interoperability of PKI with Computer Network Defense (CND) systems architecture. Ensure Navy compliance with new PKI related cryptographic algorithms and new certificates on the Common Access Card (CAC). Research and develop tools to support certificates for Non-Person Entity (NPE) devices.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>
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B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	25.934	25.229	25.902	-	25.902
Current President's Budget	24.988	37.196	26.307	-	26.307
Total Adjustments	-0.946	11.967	0.405	-	0.405
• Congressional General Reductions	-	-0.033			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	12.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.810	-			
• Program Adjustments	-	-	0.534	-	0.534
• Rate/Misc Adjustments	-	-	-0.129	-	-0.129
• Congressional General Reductions Adjustments	-0.136	-	-	-	-

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

Project: 9999: *Congressional Adds*

Congressional Add: *Cyber Security Research (Cong)*

Congressional Add Subtotals for Project: 9999

Congressional Add Totals for all Projects

	FY 2011	FY 2012
	-	12.000
	-	12.000
	-	12.000

Change Summary Explanation

TKL Contract Award slipped from 2QFY11 to 3QFY11, IOC slipped from 4QFY12 to 1QFY13 and FOC slipped 4QFY14 to 1QFY15 due to delay in contract negotiations.

KMI CI-2 MS C slipped from 2QFY11 to 1QFY12 and IOC shifted from 2QFY12 to 3QFY12 due to NSA schedule changes; FOC slipped from 4QFY14 to 1QFY17 to align to Chief of Naval Operations (CNO) ship availability.

KMI CI-2 OA2 slipped from 4QFY11 to 3QFY12, IOT&E slipped from 1QFY12 to 3QFY12 due to NSA test schedule delays.

TKL production First Article (FA) test slipped from 4QFY11 to 1QFY12 due to contract award delays.

TKL Full Rate Production (FRP) Decision slipped from 2QFY12 to 3QFY12 due to contract award delays.

KMI CI-2 Spiral 1 LRIP contract award slipped from 1QFY12 to 2QFY12 due to NSA schedule changes.

KMI CI-2 Spiral 1 FRP slipped from 2QFY12 to 1QFY13; Spiral 2 FRP slipped from 4QFY13 to 1QFY14 due to NSA schedule changes.

EKMS Phase V Software (SW) delivery end date shifted from 2QFY14 back to 1QFY13 due to accelerated fielding plan.

TKL deliveries slipped from 1QFY12 to 4QFY14 to 1QFY13 to 1QFY15 due to contract award delay.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	PE 0303140N: <i>Information Sys Security Program</i>

KMI CI-2 Spiral 2 delivery Start Date slipped from 1QFY13 to 3QFY13 due to NSA schedule changes.

KG-3X Inc 2 FRP Decision slipped from 2QFY11 to 4QFY11 due to contract delays. FRP Decision is driven by USAF (as lead service).

KG-45A FOC moved up from 2QFY13 to 1QFY13 due to battlegroup availability.

KW-46M IOC slipped from 2QFY11 to 2QFY12 to meet Common Submarine Radio Room (CSRR) Increment 1 v3 IOC.

VACM MS C slipped from 1QFY13 to 3QFY13 and IOC slipped from 1QFY14 to 3QFY14 due to delay in US Air Force source selection. Milestones are driven by USAF (as lead service).

KW-46M integration test slipped from 1QFY12 to 2QFY12 due to availability of Naval Undersea Warfare Center (NUWC) test lab.

KG-3X Inc 2 delivery moved up from 3QFY13 to 4QFY12 to meet the NSA cease key date.

KW-46M Common Submarine Radio Room (CSRR) delivery changed from 3QFY11 to 2QFY12 and 4QFY15 to 2QFY18 to meet CSRR inc 1v3 IOC.

AN/PYQ-20 (C) delivery moved up from 4QFY14 to 1QFY13 due to ship/ submarine availability.

VACM FRP delivery Start Date slipped from 3QFY13 to 1QFY14 due to Contract Award delay.

CND Inc 2 IOC slipped from 1QFY11 to 4QFY12 to match Capabilities Production Document (CPD) signed 13 AUG 2010.

CND MOC Network Operations (NetOps) Common Operational Picture (COP) development efforts transitioned to CND beginning in FY12 to continue development of Cyber MOC capabilities and "to be" architecture.

CND Inc 2 deliveries represent system refreshes/ updates and continue beyond FOC.

PKI Inc 2, Spiral 3 IOC slipped from 2QFY13 to 3QFY13 due to NSA/DISA schedule delays.

PKI Inc 2, Spiral 1 IOT&E slipped from 2QFY11 to 3QFY11 due to NSA/DISA schedule delays.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>				PROJECT 0734: <i>Communications Security R&D</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
0734: <i>Communications Security R&D</i>	22.077	22.418	23.641	-	23.641	23.771	23.326	22.637	23.021	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Information Systems Security Program (ISSP) Research Development Test & Evaluation (RDT&E) program provides Information Assurance (IA) solutions for the Navy forward deployed, highly mobile information subscriber. FORCEnet relies upon an assured information infrastructure, and the ISSP RDT&E program architects, engineers, and provides the level of robustness consistent with risks faced. The ISSP addresses engineering design, development, modeling, test, and evaluation for the unique Information Assurance (IA) challenges associated with the highly mobile, dispersed, bandwidth limited, and forward-tactical connected US Navy communications systems.

ISSP RDT&E works closely with the Navy's Information Operations - Exploit (signals intelligence) and Information Operations - Attack (information warfare) communities. ISSP RDT&E developed systems dynamically change the Navy's current information assurance posture, based upon operational indications and warnings. To ensure interoperability, ISSP RDT&E integrates fully with the FORCEnet and maritime cryptologic architectures. ISSP RDT&E developed systems can provide the trigger for offensive warfare activities.

This project includes a rapidly evolving design and application engineering effort to modernize national security-grade (Type-1) cryptographic equipment and ancillaries with state-of-the-art replacements in order to counter evolving and increasingly sophisticated threats, in accordance with The Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 6510 requirements. Communication Security (COMSEC) and Transmission Security (TRANSEC) evolution are from stand-alone dedicated devices to embedded modules incorporating National Security Agency (NSA) approved cryptographic engines, loaded with the certified algorithms and key, and interconnected via industry-defined interfaces. This includes the Department of Defense (DoD) Global Information Grid (GIG) capability requirements document for the development of Content Based Encryption (CBE) continuing through FY2013.

In addition to protecting national security information, ISSP RDT&E must provide enterprise-wide assurance for statutorily protected information under the Privacy Act of 1974, Computer Matching and Privacy Protection Act of 1988, Medical Records Confidentiality Act of 1995, Model State Public Health Privacy Act, 45 Code of Federal Regulation subtitle A sub-chapter C, parts 160-164, 1999, and the Federal Education Records Privacy Act. ISSP RDT&E efforts must also provide assurance to the broad spectrum of Sensitive-but-Unclassified information such as financial, personnel, contractor proprietary, and procurement sensitive.

The ISSP today includes more than legacy COMSEC and network security technology. IA or defensive information operations exist to counter a wide variety of threats. ISSP activities cover all telecommunications systems, and RDT&E projects must provide protection, detection, and reaction capabilities to the operational commander. ISSP RDT&E provides dynamic risk managed IA solutions to the Navy information infrastructure, not just security devices placed within a network.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>	PROJECT 0734: <i>Communications Security R&D</i>
<p>Few technology areas change as fast as telecommunications and computers, and IA must keep pace. This results in the continuing need to evaluate, develop, and/or test IA products and approaches. Technology-based efforts include developing or applying: (1) new secure voice prototypes; (2) technology for a new family of programmable COMSEC and TRANSEC modules; (3) security appliances and software for switched and routed networks; (4) technology to interconnect networks of dissimilar classification, known as Cross Domain Solutions; (5) techniques for assuring code and data residing in and transiting the Navy's computing base and information store; and (6) Public Key Infrastructure (PKI) and associated access control technologies such as SmartCards and similar security tokens; (7) Electronic Key Management System (EKMS) devices (Simple Key Loaders (SKL), COMSEC Material Work Stations (CMWS)) and Key Management Infrastructure (KMI) equipment (Client Management (MGC)/Advanced Key Processor (AKP) MGC/AKPs, High Assurance Protocol Equipment) and Next Generation devices.</p> <p>The resulting expertise applies to a wide variety of Navy development programs that integrate IA technology. Unlike traditional single-product development programs, the ISSP RDT&E holds a unique Navy-enterprise responsibility.</p> <p>ISSP efforts conclude with continuously monitored, certified and accredited systems supported within Navy cyber operational environment. Achieving and maintaining this milestone requires:</p> <ul style="list-style-type: none"> * Evolving techniques for defense of National Security Systems and Information against advanced persistent threats, including process, control, and sensor layers; * Approved techniques for the assured separation of information levels and user communities, including allied, coalition, non-Governmental, Defense Industrial Base, and other public partners; * Rapid deployment of technologies supporting the Navy's Computer Network Defense Service Providers (CNDSP) operations; * Hardware and software to assure end-to-end resilience of the Navy's telecommunications infrastructure and availability of the critical wireless spectrum resource; * High robustness interfaces with joint user and platform cyberspace domains, using a defense-in-depth architecture; * Communications Security (COMSEC) and process isolation techniques for securing the critical computing base and information store. <p>The cyberspace domain has virtually eliminated the traditional distinction between telecommunications and information systems. Because cyber security is a cradle-to-grave enterprise-wide discipline, this program applies the set of best practices embodied within the Committee on National Security Systems Instruction (CNSSI) 1253.</p> <p>Of special note is the Navy's cyber security role in the joint Cryptographic Modernization Program, required by Chairman of the Joint Chiefs of Staff Instructions (CJCSI) 6510.02D, providing high assurance and other cryptographic technologies protecting cyber systems. The parallel Security Management Infrastructure (SMI) program develops, evaluates, and applies new emerging technologies and enhanced capabilities to the Electronic Key Management System (EKMS)/Key Management Infrastructure (KMI).</p> <p>Additional efforts will focus on the architecture, design, and development of systems to manage the security parameters (e.g., cryptographic keys) necessary to the operation of the systems developed by the secure data and secure voice portions of the ISSP. This includes the application of PKI and Certificate Management Infrastructure technology, and the development of improved techniques for key and certificate management to support emerging, embedded cryptographic technology.</p> <p>ISSP RDT&E management will direct a program that:</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>	PROJECT 0734: <i>Communications Security R&D</i>
<ul style="list-style-type: none"> * Ensures the Navy's cyber domain implements a consistent joint and Federal Enterprise cyber security architecture; * Rapidly develops, deploys, and versions cyber security measures across all seven layers of the ISO Open Systems Interconnection Reference Model and for all CNSSI 1253 Information Assurance (IA) controls (best practices); * Ensures that all data within Navy Enterprise is protected in accordance with its classification and mission criticality, as required by law; * Provides 10th Fleet and Fleet Cyber Command (FLTCYBERCOM) with integrated tools and techniques to protect, detect, restore, and respond to cyber events and incidents; * Supports the Navy Computer Network Defense (CND) provider by enabling cyber situational awareness; * Defends against and detects the unauthorized modification or disclosure of data outside Navy cyber domain, such as in the WikiLeaks incident; * Provides a risk-managed means of selectively allowing information to flow across the enclave boundary while ensuring proper marking and provenance; * Provides strong authentication of users accessing services from Navy cyberspace; * Defends against the unauthorized use of a host or application, particularly operating systems, control and process systems, and supervisory control and data acquisition systems; * Maintains cyber security configuration management of all hosts to track patches and system configuration changes; * Ensures adequate defenses against subversive acts of trusted people and systems, both internal and external; * Provides a Communications Security (COMSEC) infrastructure that supports key, privilege, and certificate management; and that enables positive identification of individuals utilizing network services; and, * Provides a continuous monitoring, analysis, assessment, situational awareness, and response infrastructure. <p>Maritime Operations Center (MOC) networks will operate and share information with multiple partners and in varying circumstances. The MOCs will receive integrated tools to maintain a Network Operations (NetOps) Common Operational Picture (COP) and support Command and Control (C2) of the Communications Systems (CS) through the ability to analyze and develop Courses of Action (COA's) to manage C2 cyberspace operations. This includes CYBER Surveillance, bandwidth monitoring, INTEL situational awareness tools, and network health monitoring. NetOps COP will provide a proactive view and enhanced security tool for use by CYBER network managers. NetOps COP ensures validity of the COP, network health, and provides operator synchronization with Information Operations (IO), and situational awareness of the cyber battle space. A combination of software tools, interoperable enabling hardware and processes to monitor and visualize network traffic to provide a locally generated, fused situational awareness picture for battle watch decision-making will be provided. NetOps COP provides the Commander with near immediate risk assessment, actionable intelligence and immediate mitigation courses of action and attribution of on-going CS Protection events in order to enable the apportionment of forces with exacting control in response to national objectives.</p> <p>FY 13 Highlights for Information Systems Security Program (ISSP),</p> <p>Computer Network Defense (CND) - Continue to implement Department of Defense (DoD)/Enterprise-wide IA and CND Solutions Steering Group (ESSG) tools into Outside the Continental US Navy Enterprise Network (ONE-Net), Information Technology for the 21st Century (IT-21), and other networks (e.g., CARS) as required. Support the DoD/ESSG development and integration of CND capabilities into the Navy's architecture and support the addition of these capabilities into the new Commander Tenth Fleet (C10F) Maritime Operations Center (MOC). Continue to integrate CND capabilities to perform near real-time analysis of events</p>		

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and Advanced Persistent Threat (APT). Update the CND IA suites with adaptive defense, incident reporting, correlation, and situational awareness capabilities. Achieve cost and performance efficiencies by consolidating IA services in the ONE-Net environment and by furthering efforts to virtualize CND capabilities. Continue to develop, integrate, and test defense-in-depth and situational awareness technologies for knowledge-empowered CND operations for afloat and ashore platforms. Promote Course of Action (COA)s development analysis and execution to improve interoperability with the Global NetOps Information Sharing Environment. Develop enhancements and continue evaluation of needs derived from the CND Capabilities Steering Group to advance analysis and response to network threats.

C10F Maritime Operations Center (MOC) - Leverage the Ozone Widget framework and the US Cyber Command Cyber Pilot architecture to deliver visualization and analysis tools in support of a NetOps COP at the C10F MOC.

Cryptographic (Crypto)/Crypto Modernization (CM) - Continue systems and security engineering support Link-22 Modernized Link Level Communications Security (COMSEC) (MLLC) full development effort., Very High Frequency (VHF)/ Ultra High Frequency (UHF) Wideband Tactical Secure Voice Cryptologic Equipment (VINSON)/Advanced Narrowband Digital Voice Terminal (ANDVT) Cryptographic Modernization (VACM), and Link-16 CM development efforts. Key Management Infrastructure (KMI) Awareness, Navy Future Crypto Requirements, Navy Crypto Mod Acceleration with joint services. Continue coordination of a Crypto Modernization Plan for Transmission Security (TRANSEC) with National Security Agency (NSA) and other services.

Key Management Infrastructure (KMI) - Continue transition strategy and define requirements for incorporation of other KMI roles into Navy architecture (e.g., Controlling Authority, Command Authority). Provide capability, engineering development and verification testing support to KMI Capability Increment (CI)-2. Provide engineering services to the CRYPTO MOD programs (iApp) to ensure crypto devices are being designed with Key Management Infrastructure (KMI) capabilities specifically Over the Network Keying and are Network enabled. Begin requirements definition efforts for the next generation fill device and KMI CI-3. Investigate alternative KMI architecture implementations for submarine and other communities within the Navy. Provide engineering and analysis to a centralized configuration management and crypto unit inventory tracking tool which will improve Electronic Key Management System (EKMS) and Crypto product management. Provide engineering and analysis to the intermediary Application (iApp) which will enhance KMI secure communications.

Public Key Infrastructure (PKI) - Continue to develop Secret Internet Protocol Router Network (SIPRNet) PKI solutions, including the SIPRNet Validation Authority and Hardware Token. Research and test Defense Information Systems Agency (DISA) Online Certificate Status Protocol (OCSP) enhancements for certificate authentication in the Navy afloat and ashore environments. Ensure compatibility and interoperability of PKI with Computer Network Defense (CND) systems architecture. Ensure Navy compliance with new PKI related cryptographic algorithms and new certificates on the Common Access Card (CAC). Research and develop tools to support certificates for Non-Person Entity (NPE) devices.

IA Services - Continue to provide security systems engineering support for the development of DoD and Navy IA architectures and the transition of new technologies to address Navy IA challenges. Provide IA risk analysis and recommended risk mitigation strategies for Navy networks and C4I systems.

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

	FY 2011	FY 2012	FY 2013
Title: Computer Network Defense (CND)	7.714	8.394	9.871
Articles:	0	0	0

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
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FY 2011 Accomplishments:
Supported Department of Defense (DoD) mandated network security tools including the acceleration of Host Based Security Systems (HBSS) for all afloat SIPRNet enclaves in response to United States Strategy Command (USSTRATCOM) Communications Tasking Order (CTO) 10-133. Continued testing of adaptive reactive-defense capabilities, improved incident correlation, and situation awareness reporting. Conducted engineering activities in support of extending boundary defense capabilities to afloat platforms. Addressed Computer Network Defense (CND) capabilities required to support Information Assurance (IA) management of virtual machine and Virtual network environments from a tiered enclave organizational level, network operations intermediate level, and global enterprise management level. Conducted successful developmental test and operational assessment of CND Increment 2 systems. Accomplished transition from Abbreviated Acquisition Program (AAP) to Acquisition Category (ACAT) IV program of record and completed DoD 5000 requirements in support of Milestone C. CND Increment 2 received MS C approval 16 AUG 2011. Acquisition Decision Memorandum (ADM) authorized procurement of 49 LRIP systems.

FY 2012 Plans:
Incorporate DoD mandated network security tools into the next sub-increment of CND afloat and ashore design. Efforts include deployments of HBSS to afloat Navy Internet Protocol Router Network (NIPRNet) enclaves, network mapping and leak detection solutions, and configuration compliance and remediation tools. Develop Navy implementations of these DoD-mandated tools and capabilities. With the guidance of the Navy CND Capabilities Integrated Product Team (IPT), determine the capability needs that will need to be implemented in sub-increments. Begin CND Increment 2 technology insertion cycles (rapid acquisition) to address current and emergent real world threats, performance improvements, and end-of-life issues. Continue meeting Increment 2 Capability Production Document (CPD) performance parameters and address key system attributes. Support Initial Operational Test and Evaluation (IOT&E) and associated readiness reviews for CND Increment 2 to achieve Full-Rate Production (FRP) decision.

FY 2013 Plans:
Continue to ensure that security of Navy networks will meet the mandates and initiatives of DoD for securing the Global Information Grid (GIG). Continue to develop, integrate, and test defense-in-depth and situational awareness technologies for knowledge-empowered CND operations for afloat and ashore installations. Continue to support new capabilities into the Navy's architecture and provide technical guidance to ensure CND requirements are met by Consolidated Afloat Networks and Enterprise Services (CANES). Continue to support of DoD defined tools and capabilities including automation of reporting, monitoring, analysis and response as well as providing modernized patch management and host based security agent tools. Continue to integrate CND capabilities to perform near real-time analysis of events and Advanced Persistent Threat (APT). Update the CND IA suites with adaptive defense, incident reporting, correlation, and situational awareness capabilities. Continue to develop, integrate, and test Defense-in-Depth and situational awareness technologies for knowledge-empowered CND operations for afloat

FY 2011	FY 2012	FY 2013

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
and ashore platforms. Promote Course of Action (COA) development analysis and execution to improve interoperability with the Global NetOps Information Sharing Environment. Develop enhancements and continue evaluation of needs derived from the CND Capabilities Steering Group to advance analysis and response to network threats.				
C10F Maritime Operations Center (MOC) - Leverage the Ozone Widget framework and the US Cyber Command Cyber Pilot architecture to deliver visualization and analysis tools in support of Network Operations (NetOps) Common Operational Picture (COP) at the C10F MOC.				
Title: Crypto/Crypto Modernization		8.339	7.656	8.052
		Articles: 0	0	0
FY 2011 Accomplishments: Continued research, evaluation, and prioritization of modernization for cryptographic products. Continued coordination with the Information Systems Security Program Office (ISSPO), joint services, and the National Security Agency (NSA), including representing the Navy at the National Cryptographic Solutions Management Office's Crypto Solution Technical Advisory Group (CSTAG). Continued identifying strategies to reduce the overall crypto inventory within the Department of the Navy (DoN) to realize long term cost savings. Continued to support the on-going Cryptographic Joint Algorithm Integrated Project Team (IPT). Continued development for the Link 16 Cryptographic Modernization. Provided Link 22 cryptographic modernization and engineering support on the Modernized Link Level Communications Security (COMSEC) (MLLC). KW-46 Modernization continued with assisting the NSA/I5 with finalization of keying material generation. AN/PYQ-20 engineering support throughout fielding as Trusted Agents (TA) for the certification and accreditation, supporting on fielding strategy, and other miscellaneous items. Continued Secure Voice (SV) RDT&E efforts such as Small Business Innovation Research (SBIR) oversight, and Naval Research Laboratory (NRL's) research into SV emerging technologies and related technical products, support to Air Force lead Very High Frequency (VHF)/Ultra High Frequency (UHF) Wideband Tactical Secure Voice Cryptologic Equipment (VINSON)/Advanced Narrowband Digital Digital Voice Terminal (ANDVT) Cryptographic Modernization (VACM) program and continue supporting ASD (NII)NC2/ NC3 CM. Initiated major pre-acquisition and development efforts for Department of the Army Materiel Annex (DAMA). Coordinated a Crypto Modification plan for Transmission Security (TRANSEC) with NSA and other services. Navy VACM efforts have included continued refinement of Navy (and dependent assets (e.g., USCG, USMC, MSC) inventory numbers, VACM Integrated Test Team (ITT) participation, continued research and discussion about fielding options. Performed a Saville Voice study that resulted in a significant reduction in the number of VACM replacement units needed. Provided NC2/NC3 engineering support for Communications Security (COMSEC) used within the strategic communications architecture.				
FY 2012 Plans: Continue research, evaluation, and prioritization of cryptographic products. Continue coordination with the Information Systems Security Program (ISSP) Office and the NSA, including representing the Navy at the CSTAG. Continue identifying strategies				

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<p>to reduce the overall crypto inventory within the DoN to realize long term cost savings. Continue to support the on-going Cryptographic Joint Algorithm IPT. Provide consistent IA engineering support for the development and integration of CM products. Provide research into disposition of devices on the Crypto Priority (Red) List. Conduct research into Key Management Infrastructure (KMI) awareness for devices (e.g., iApp development). Continue development for the Link 16 CM through performing technical Analysis of Alternatives (AoA) for vendor Type 1 Crypto devices and security architecture implementations, conducting security risk analysis, reviewing security requirement specifications/test plans, developing systems engineering documents into technical documentation to ensure the implementation of robust IA solutions, and providing Subject Matter Experts (SME) technical support to multi-functional Link-16 CM development teams. Provide Link 22 cryptographic modernization and engineering support on the Modernized Link Level COMSEC (MLLC), to include finalizing development of various engineering documents and specifications to support development. KW-46 Modernization Enterprise Change Request (ECR) process to consolidate test reports for the Material Licensing Tracking System (MLTS) testing at Naval Undersea Warfare Center (NUWC), and assist with the fielding. KW-46M work entails integration testing, Emergency Action Message (EAM) and Targeting Change Message (TCM) certifications, and installation into the Common Submarine Radio Room (CSRR). Continue Secure Voice (SV) RDT&E efforts and NRL's research into SV emerging technologies and related technical products, support to Air Force led VACM program and continue supporting ASD (NII) NC2/ NC3 CM Coordinate a Crypto Mod plan for TRANSEC with NSA and other services.</p> <p>FY 2013 Plans: Continue research, evaluation, and prioritization of cryptographic products. Continue coordination with NSA, including representing the Navy at the CSTAG and support to the Cryptographic Joint Algorithm Integrated Project Team (IPT). Continue identifying strategies to reduce the overall crypto inventory within the DoN to realize long term cost savings. Continue to provide research into disposition of devices on the Crypto Priority (Red) list. Continue systems and security engineering support for the Link-22 Modernized Link Level COMSEC (MLLC) during the full development effort. Conduct research into KMI Awareness for devices (e.g., iApp development). Provide consistent IA engineering support for the development and integration of CM products. Continue development for the Link 16 CM through performing technical Analysis of AoA for vendor Type 1 Crypto devices and security architecture implementations. KW-46M work entails integration testing, Emergency Action Message (EAM) and Targeting Change Message (TCM) certifications, and installation into the Common Submarine Radio Room (CSRR). Continue NRL's research into SV emerging technologies and related technical products, support to Air Force led VACM program and continue supporting ASD (NII)NC2/ NC3 CM. Coordinate a Crypto Mod plan for TRANSEC with NSA and other services. For Secure Voice, conduct and witness all test, evaluations, and certifications required during VINSON ANDVT (VACM) Development Test (DT), and Operational Test (OT).</p>				
Title: Key Management Infrastructure (KMI)		2.456	2.708	2.665
Articles:		0	0	0

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
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FY 2011 Accomplishments:
Continued finalizing the Department of the Navy (DoN) KMI architecture and roll out strategy for deployment. Identified any issues pertaining to transition from Electronic Key Management System (EKMS) to Key Management System (KMI) pertaining to capabilities and connectivity to Naval networks. Provided engineering support in review of all necessary documentation for Navy Independent Logistics Assessment and National Security Agency (NSA) Milestone C Acquisition Decision Memorandum. This determined Navy transition for full rate production within the Navy for KMI Capability Increment (CI)-2. Continued engineering efforts for Navy transition and test planning for KMI CI-2 Manager Client/Advanced Key Processor (MGC/AKP). Continued developing Navy implementation plan for KMI CI-2 to support Navy programs of record and EKMS end of life. Provided technical support to National Security Agency (NSA) for KMI CI-2 Spiral 1 Development Testing and Evaluation, Operational Assessment (OA), Initial Operational Testing and Evaluation (IOT&E).

FY 2012 Plans:
Continue transition strategy and define requirements for incorporation of other KMI roles into Navy architecture (e.g., Controlling Authority, Command Authority). Continue supporting KMI transition working group meetings, developing white papers and support documentation for KMI. Begin engineering and development efforts for KMI CI-2 Spiral 2 Spin 1 for incorporation into Navy architectures and networks. Testing KMI Manager Client/Advanced Key Processors (AKP) at selected pilot sites in support of NSA full rate production decision. Provide requirements definition support to the development of the next generation fill device. Migrate Communications Security (COMSEC) Material Work Station/Data Management Device and other next generation fill devices to the KMI environment. Provide research and analysis to a centralized configuration management and crypto unit inventory tracking tool which will improve EKMS and Crypto product management. Provide research and analysis to the intermediary application (iApp) which will enhance KMI secure communications.

FY 2013 Plans:
Begin capability, engineering development and verification testing support to KMI CI-2 Spiral 2 Spin 2. Continue transition strategy and define requirements for incorporation of other KMI roles into Navy architecture (e.g., Controlling Authority, Command Authority). Continue supporting KMI transition working group meetings, developing white papers and support documentation for KMI. Continue requirements definition support to the development of the next generation fill device. Continue Migrating COMSEC Material Work Station/Data Management Device and other next generation fill devices to the KMI environment. Begin to define capability requirements for KMI CI-3. Provide engineering and analysis to a centralized configuration management and crypto unit inventory tracking tool which will improve Electronic Key Management System (EKMS) and Crypto product management. Provide engineering and analysis to the intermediary Application (iApp) which will enhance KMI secure communications.

<i>Title:</i> Public Key Infrastructure (PKI)	0.741	0.408	0.404
<i>Articles:</i>	0	0	0

FY 2011 Accomplishments:

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<p>Tested and evaluated security and functionality of Public Key Infrastructure (PKI) tokens, readers, and middleware for Secure Internet Protocol Router Network (SIPRNet). Researched and evaluated tools to support Non-Person Entity (NPE) certificates. Analyzed and evaluated new application updates (including Windows and non-Windows Operating Systems) for integration into Navy PKI environments. Evaluated commercial off-the-shelf products that can support coalition information sharing. Designed and developed PKI SIPRNet expansion to support Global Information Grid (GIG) identity management and protection requirements. Evaluated automated on-line network device (e.g., workstations, routers, switches) certificate issuance infrastructure. Completed Department of Defense (DoD) 5000 requirements to achieve PKI Increment 2 Spiral 2 Milestone C and completed PKI Increment 2 Spiral 1 Initial Operational Test and Evaluation (IOT&E).</p> <p>FY 2012 Plans: Research, analyze and evaluate PKI enabled products such as Virtual Private Networks (VPN), routers, switches, servers, and Secret Internet Protocol Router Network (SIPRNet) Token Management System for their suitability to support Navy needs for Non-Person Entity (NPE) certificates and Global Information Grid (GIG) identity management and protection requirements. Provide systems engineering support for SIPRNet PKI enabling to Navy Programs of Record (POR) for integration. This includes research, analysis, and evaluation of PKI enabled products and methods to support the manual and automatic enrollment and issuance of PKI NPE certificates to Navy servers and devices. Evaluate Defense Information Systems Agency's (DISA) auto-enrollment and registration services for Phases II and III of DoD PKI enabled Implementation. Research, analyze, and evaluate PKI enabled products for non-Microsoft devices and systems (e.g., Linux, Apple, servers, router, switches). Explore enhancements of PKI related cryptographic algorithms.</p> <p>FY 2013 Plans: Continue to research, analyze and evaluate PK enabled (PKE) products (Microsoft and non-Microsoft) such as VPNs, routers, switches, and servers for their suitability to support Navy requirements for NPE certificates and to support GIG identity management and protection requirements. Continue to provide systems engineering support for SIPRNet PKI enablement to Navy POR for integration. Continue to support the manual and automatic enrollment and issuance of PKI NPE certificates to Navy servers and devices. Continue to evaluate DISA's auto-enrollment and registration services for DoD PKI enabled devices. Continue to research and evaluate new technologies and develop solutions to enable the Navy's Public Key Infrastructure to process new cryptographic algorithms and new secure hash algorithms (e.g., SHA-256, Elliptic Curve Cryptography). Test and evaluate DISA Online Certificate Status Protocol (OCSP) enhancements for certificate authentication in the Navy afloat and ashore environment. Continue to ensure interoperability of PKI with Computer Network Defense (CND) systems architecture.</p>				
<p>Title: Electronic Key Management System (EKMS)</p> <p>FY 2011 Accomplishments:</p>		<p>Articles: 0.176 0</p>	-	-

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
Finalized Navy EKMS Phase V hardware and software development for afloat and ashore as well as submarine community. Conducted Virtual Private Network (VPN) testing and prepared all necessary installation documentation to support this effort. Identified any functional deficiencies within EKMS Phase V for inclusion into the Key Management Infrastructure (KMI) Capability Increment (CI)-2 architecture. Continued to provide technical design support to EKMS programs of record (Advanced Extremely High Frequency (AEHF) and Mobile User Objective System (MUOS)) for architectures. Continued to define EKMS technology gaps in preparation to the transition to KMI. Identified technical solutions for EKMS sustainment until KMI CI-2.				
Title: Information Assurance (IA) Services		2.651	2.752	2.649
Articles:		0	0	0
FY 2011 Accomplishments: Continued to provide security systems engineering support for the development of Department of Defense (DoD) and Department of the Navy (DoN) Information Assurance (IA) architectures and the transition of new technologies to address Navy IA challenges. Provided updates to the Navy IA master plan that reflect emerging priorities and address Navy specific threats. Coordinated IA activities across the virtual System and Materiel Command (SYSCOM) via the IA Trusted Agent (TA) to ensure the security design and integration of Computer Adaptive Network Defense In Depth (CANDiD) products and services is consistent across the Navy for major initiatives such as the future afloat, ashore, and Outside the Continental United States (OCONUS) networks. Provided IA risk analysis and recommended risk mitigation strategies for Navy critical networks and Command, Control, Communications, Computers, and Intelligence (C4I) systems. Coordinated with the Navy acquisition community to ensure IA requirements are identified and addressed within the development cycles for emerging Navy network and C4I capabilities. Continued to evaluate products for security issues and develop guidance and procedures for the design and integration of risk mitigation strategies via appropriate IA controls.				
FY 2012 Plans: Continue to provide security systems engineering support for the development of DoD and DoN IA architectures and the transition of new technologies to address Navy IA challenges. Provide updates to the Navy IA master plan that reflect emerging priorities and address Navy specific threats. Coordinate IA activities across the virtual System Command (SYSCOM) via the IA TA to ensure the security design and integration of Computer Adaptive Network Defense In Depth (CANDiD) products and services is consistent across the Navy for major initiatives such as the future afloat, ashore, and OCONUS networks. Provide IA risk analysis and recommended risk mitigation strategies for Navy critical networks and C4I systems. Coordinate with the Navy acquisition community to ensure IA requirements are identified and addressed within the development cycles for emerging Navy network and C4I capabilities. Continue to evaluate products for security issues and develop guidance and procedures for the design and integration of risk mitigation strategies via appropriate IA controls.				
FY 2013 Plans:				

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Continue to provide security systems engineering support for the development of DoD and DoN IA architectures and the transition of new technologies to address Navy IA challenges. Provide updates to the Navy IA master plan that reflect emerging priorities and address Navy specific threats. Coordinate IA activities across the virtual SYSCOM via the IA TA to ensure the security design and integration of CANDiD products and services is consistent across the Navy for major initiatives such as the future afloat, ashore, and OCONUS networks. Provide IA risk analysis and recommended risk mitigation strategies for Navy critical networks and C4I systems. Coordinate with the Navy acquisition community to ensure IA requirements are identified and addressed within the development cycles for emerging Navy network and C4I capabilities. Continue to evaluate products for security issues and develop guidance and procedures for the design and integration of risk mitigation strategies via appropriate IA controls.			
Title: Maritime Operations Center (MOC) FY 2012 Plans: Maritime Operations Center (MOC) funding transitions to Computer Network Defense (CND) funding line to continue development of Cyber MOC capabilities. MOC will conduct Analysis of Alternatives (AoA) and evaluate the 10th Fleet operational data feeds and prepare a project plan to integrate these feeds to a set of Network Operations (NetOps) Common Operational Picture (COP) tools and maximize NetOps watch standard effectiveness.	-	0.500 0	-
Articles:			
Accomplishments/Planned Programs Subtotals	22.077	22.418	23.641

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

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2013</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u>	<u>Complete</u>	<u>Total Cost</u>
			<u>Base</u>	<u>OCO</u>	<u>Total</u>							
• OPN/3415: <i>Info Sys Security Program (ISSP)</i>	113.737	109.394	144.104	0.000	144.104	142.507	136.454	125.421	125.641	Continuing		Continuing

D. Acquisition Strategy

EKMS Phase V -The Electronic Key Management System (EKMS) program is linked to the National Security Agency's (NSA's) strategy in implementing EKMS in evolutionary phases and migrating to Key Management Infrastructure (KMI). NSA is the lead for the joint EKMS effort and has been developing and certifying EKMS devices and capabilities in an evolutionary approach. EKMS Phase V is a major component evolving to KMI Capability Increment 2.

Key Management Infrastructure (KMI) - KMI is the next generation EKMS system that is net centric in nature, providing the infrastructure for management, ordering and distribution of key material as well as directly supporting the key requirements of all Crypto modernization efforts. Navy will continue to provide and refine Navy unique requirements into the NSA KMI CI-2 Spiral 2 Spin 2 capability. In parallel, KMI will continue to define Navy operational architecture and requirements for roll out of this new capability in the Fiscal Year 2013. Provide and refine Navy unique requirements into the NSA KMI CI-3 Capability Development Document (CDD). Investigate alternative KMI architecture implementations for submarine and other communities within the Navy.

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Cryptographic Modernization (CM) - The procurement and fielding of Modernized Crypto devices such as the KG-3X Inc 2, KG-45A, AN-PYQ-20(v)(c) (formerly KL-51M), KW-46M, KG-175D, KG-175A, KG-3X Suites, K02 Replacement, Very High Frequency (VHF)/Ultra High Frequency (UHF) Wideband Tactical Secure Voice Cryptologic Equipment (VINSON)/Advanced Narrowband Digital Voice Terminal (ANDVT) Cryptographic modernization (VACM), Common Submarine Radio Room (CSRR), Walburn, and Communications Security (COMSEC) Crypto Serial Replacement will provide replacements of legacy crypto in accordance with the Chairman of the Joint Chiefs of Staff (CJCS) mandate (CJCS Instruction 6510) as well as the NSA's planned decertification, which improves the security of the Navy's data in transit.

Computer Network Defense (CND) - The CND program procures equipment to secure Navy network information systems. Procurements within the CND equipment line include: Firewall components which provide protection for networks from unauthorized users, Virtual Private Networks (VPN's) which provide encrypted "Point-to-Point" virtual communication networks, Intrusion Prevention Systems (IPS), Administrator Access Control, Network Security tools and Filtering routers. CND procurements will also include Department of Defense (DoD) Information Assurance (IA) certification and accreditation process end-to-end certification and accreditation support tool, to provide enterprise-wide visibility into security posture. The rapid advance of cyber technology requires an efficient process for updating CND tools deployed to afloat and shore platforms. Recognizing the need for future CND capability improvements, CND will be implementing an evolutionary acquisition strategy that delivers CND capability in multiple increments and functionality releases that address validated requirements.

Maritime Operations Center (MOC) - This Research Development Test & Evaluation (RDT&E) line supports an incremental acquisition strategy. MOC utilizes a System of Systems (SoS) and incremental approach in achieving global network of Navy Maritime organizations through Builds as defined by OPNAV N2/N6F41/C10F.

E. Performance Metrics

Key Management Infrastructure (KMI):

- * Install KMI Manager Client/Advanced Key Processor (MGC/AKPs Spiral 2/Spin2) at selected pilot sites to support Initial Operational Capability (IOC).
- * Conduct Navy testing across relevant networks (e.g., Navy/Marine Corp Internet/Next Generation(NMCI/NGEN), Integrated Shipboard Network System/Consolidated Afloat Networks and Enterprise Services (ISNS/CANES), Base Level Information Infrastructure Outside the Continental United States (OCONUS) Navy Enterprise Network (BLII ONEnet)) to support Navy-wide deployment by 4QFY13.
- * Complete engineering efforts and test planning for the KMI CI-2 (Spiral 2/Spin 2) transition.

Cryptographic Modernization (CM):

- * Meet 100% of TOP SECRET (TS) and SECRET Chairman of the Joint Chiefs of Staff Instruction (CJCSI 6510) Cryptographic Modernization (CM) requirements within the current FYDP by conducting a gap analysis and building a CM roadmap and implementation plan to allow the Navy NETWAR FORCEnet Enterprise to establish operational priorities based on risk assessments. The gap analysis is an effort to analyze current integrated legacy cryptographic devices within the Department of the Navy (DoN) inventory with known algorithm vulnerability dates, hardware sustainment issues, and identify transition device schedules if one exists.
- * Meet 100% of TS and SECRET CJCSI 6510 by fielding modern cryptographic devices or request "recertification" via the Joint Staff Military Communications-Electronics Board (MCEB).

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>	PROJECT 0734: <i>Communications Security R&D</i>
<p>* Increase the functionality cryptographic devices by replacing 2 legacy cryptographic devices with 1 modern device where possible and identify and implement modern small form factor, multi channel cryptos. (e.g., KIV-7M replacing KIV-7HS, KIV-7HSB, KG-84, KWR-46, KL-51, etc.)</p> <p>Computer Network Defense (CND):</p> <ul style="list-style-type: none"> * Provide the ability to protect from, react to, and restore operations after an intrusion or other catastrophic event through validated Contingency Plans (CPs) for 100% of CND systems. * Develop dynamic security defense capabilities, based on the CND posture as an active response to threat attack sensors and vulnerability indications to provide adequate defenses against subversive acts of trusted people and systems, both internal and external, by integration of anomaly-based detection solutions into the design solutions for 100% of authorized Navy enclaves. * Defend against the unauthorized use of a host or application, particularly operating systems, by development and/of integration of host-based intrusion prevention system design solutions for 100% of authorized Navy enclaves. <p>Information Assurance (IA) services:</p> <ul style="list-style-type: none"> * Ensure 100% interoperability and application of commercial standards compliance for ISSP products by researching and conducting selective evaluations, to integrate and test of commercial-off-the-shelf/Non-Developmental Item IA security products. Evaluation may include defensible network boundary capabilities such as firewalls, secure routers and switches, guards, Virtual Private Networks (VPN), and network Intrusion Prevention Systems (IPS). * Provide 100% of the services delineated in OPNAVINST 5239.1C by serving as the Navy's Information Assurance (IA) technical lead by developing IA risk analysis and recommended risk mitigation strategies for critical Navy networks and C4I systems. * Coordinate IA activities across the Navy Enterprise via the IA Trusted Agent (TA) to measure effectiveness of Navy networks and ensure the security design and integration of Computer Adaptive Network Defense-in-Depth (CANDiD) products and services is 100% interoperable and operationally acceptable across the Navy for major initiatives such as the future afloat, ashore, and OCONUS networks. <p>Maritime Operations Center (MOC):</p> <p>Develop and provide Network Operations (NetOps) Common Operational Picture (COP) for C10F.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>	PROJECT 0734: <i>Communications Security R&D</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 PAC/ SSC LANT:San Diego, CA/ Charleston, SC	22.710	7.685	Dec 2011	7.428	Dec 2012	-		7.428	Continuing	Continuing	Continuing
Systems Engineering	WR	NRL:Washington, DC	0.600	0.278	Dec 2011	0.280	Dec 2012	-		0.280	Continuing	Continuing	Continuing
Systems Engineering - Link 22	C/CPAF	Northrup Grumman:Washington, DC	-	0.105	Nov 2011	0.106	Nov 2012	-		0.106	Continuing	Continuing	Continuing
Systems Engineering (MOC)	WR	SSC PAC:San Diego, CA	-	0.500	Dec 2011	1.000	Dec 2012	-		1.000	Continuing	Continuing	Continuing
Systems Engineering	WR	NUWC:Newport, RI	0.608	-		-		-		-	Continuing	Continuing	Continuing
Systems Engineering	WR	FNMO:Monterey, CA	0.480	-		-		-		-	Continuing	Continuing	Continuing
Software Development	C/CPAF	SAIC:San Diego, CA	32.877	-		-		-		-	Continuing	Continuing	Continuing
Software Development	WR	SSC PAC/ SSC LANT:San Diego, CA/ Charleston, SC	11.029	-		-		-		-	Continuing	Continuing	Continuing
Software Development	WR	NRL:Washington, DC	19.196	1.299	Dec 2011	1.322	Dec 2012	-		1.322	Continuing	Continuing	Continuing
Primary Hardware Development (PY)	WR	Various:Various	102.136	-		-		-		-	Continuing	Continuing	Continuing
Primary Hardware Development	WR	SSC PAC:San Diego, CA	2.554	-		-		-		-	Continuing	Continuing	Continuing
Primary Hardware Development	WR	NRL:Washington, DC	0.970	-		-		-		-	Continuing	Continuing	Continuing
Subtotal			193.160	9.867		10.136		-		10.136			

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	WR	SSC PAC/ SSC LANT:San Diego, CA/ Charleston, SC	-	0.849	Dec 2011	0.856	Dec 2012	-		0.856	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>	PROJECT 0734: <i>Communications Security R&D</i>
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Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	C/CPFF	BAH:San Diego, CA	-	0.774	Oct 2011	0.782	Oct 2012	-		0.782	Continuing	Continuing	Continuing
Requirements Analysis	WR	Various:Various	-	0.978	Dec 2011	0.988	Dec 2012	-		0.988	Continuing	Continuing	Continuing
Studies & Design	WR	Various:Various	-	0.777	Dec 2011	0.783	Dec 2012	-		0.783	Continuing	Continuing	Continuing
Studies & Design	WR	SSC PAC/ SSC LANT:San Diego, CA/ Charleston, SC	-	1.674	Dec 2011	1.691	Dec 2012	-		1.691	Continuing	Continuing	Continuing
Systems Engineering Spt	WR	NRL:Washington, DC	-	0.183	Dec 2011	0.185	Dec 2012	-		0.185	Continuing	Continuing	Continuing
Systems Engineering Spt	WR	Various:Various	-	1.678	Dec 2011	1.690	Dec 2012	-		1.690	Continuing	Continuing	Continuing
Systems Engineering Spt	WR	SSC PAC/ SSC LANT:San Diego, CA/ Charleston, SC	-	1.183	Dec 2011	2.000	Dec 2012	-		2.000	Continuing	Continuing	Continuing
Subtotal			-	8.096		8.975		-		8.975			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 DT&E	WR	NUWC:Newport, RI	0.623	0.075	Dec 2011	0.076	Dec 2012	-		0.076	Continuing	Continuing	Continuing
System DT&E	WR	SSC LANT:Charleston, SC	-	0.260	Dec 2011	0.262	Dec 2012	-		0.262	Continuing	Continuing	Continuing
System DT&E	WR	SSC PAC:San Diego, CA	34.778	-		-		-		-	Continuing	Continuing	Continuing
System OT&E	WR	COTF:Norfolk, VA	0.125	0.115	Dec 2011	0.116	Dec 2012	-		0.116	Continuing	Continuing	Continuing
Subtotal			35.526	0.450		0.454		-		0.454			

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 Management	C/CPFF	BAH:San Diego, CA	-	1.457	Dec 2011	1.472	Dec 2012	-		1.472	Continuing	Continuing	Continuing

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>	PROJECT 0734: <i>Communications Security R&D</i>
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EXHIBIT R4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 07: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>	PROJECT NUMBER AND NAME 0734: <i>Communications Security R&D</i>
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Fiscal Year	2011				2012				2013				2014				2015				2016				2017												
	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																																					
EKMS Phase V (Note 1)																																					
TKL (Note 1)		▲								△																											
TKL Contract Award																																					
TKL IOC																																					
TKL FOC																																					
EKMS Phase V FOC																																					
KMI CI-2 (Note 2)						▲				△																											
KMI CI-2 MS C																																					
KMI CI-2 IOC																																					
KMI CI-2 FOC																																					
Test & Evaluation Milestones																																					
Development Test (D/T)																																					
KMI CI-2		▲																																			
KMI CI-2 DT&E																																					
Operational Test (O/T)																																					
KMI CI-2 IOT&E										△																											
KMI CI-2 IOT&E																																					
KMI CI-2 OA2 (Note 3)										△																											
KMI CI-2 OA2																																					

Note 1: TKL Contract Award slipped from 2QFY11 to 3QFY11, IOC slipped from 4QFY12 to 1QFY13 and FOC slipped 4QFY14 to 1QFY15 due to delay in contract negotiations.
 Note 2: KMI CI-2 MS C slipped from 2QFY11 to 1QFY12 and IOC shifted from 2QFY12 to 3QFY12 due to NSA schedule changes; FOC slipped from 4QFY14 to 1QFY17 to align to Chief of Naval Operations (CNO) ship availability.
 Note 3: KMI CI-2 OA2 slipped from 4QFY11 to 3QFY12, IOT&E slipped from 1QFY12 to 3QFY12 due to NSA test schedule delays.

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>	PROJECT 0734: <i>Communications Security R&D</i>

Fiscal Year	EXHIBIT R4, RDT&E Schedule Profile: PB 2013 Navy																				DATE: February 2012											
	APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 07: Operational Systems Development																				PROJECT NUMBER AND NAME 0734: Communications Security R&D											
	R-1 ITEM NOMENCLATURE PE 0303140N: Information Sys Security Program																															
	2011				2012				2013				2014				2015				2016				2017							
	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				
Production Milestones																																
TKL (Notes 1, 2)																																
KMI CI-2 (Note 3, 4)																																
Deliveries																																
EKMS Phase V SW (Note 5)																																
EKMS SKL																																
TKL (Note 6)																																
KMI CI-2 (Note 7)																																
KMI CI-2 Next Generation Fill Device																																

- Note 1: TKL production First Article (FA) test slipped from 4QFY11 to 1QFY12 due to contract award delays.
- Note 2: TKL Full Rate Production (FRP) Decision slipped from 2QFY12 to 3QFY12 due to contract award delays.
- Note 3: KMI CI-2 Spiral 1 LRIP contract award slipped from 1QFY12 to 2QFY12 due to NSA schedule changes.
- Note 4: KMI CI-2 Spiral 1 FRP slipped from 2QFY12 to 1QFY13; Spiral 2 FRP slipped from 4QFY13 to 1QFY14 due to NSA schedule changes.
- Note 5: EKMS Phase V Software (SW) delivery end date shifted from 2QFY14 back to 1QFY13 due to accelerated fielding plan.
- Note 6: TKL deliveries slipped from 1QFY12 to 4QFY14 to 1QFY13 to 1QFY15 due to contract award delay.
- Note 7: KMI CI-2 Spiral 2 delivery Start Date slipped from 1QFY13 to 3QFY13 due to NSA schedule changes.

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>	PROJECT 0734: <i>Communications Security R&D</i>
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EXHIBIT R4, RDT&E Schedule Profile: PB 2013 Navy	R-1 ITEM NOMENCLATURE																												DATE:			
	PE 0303140N: Information Sys Security Program																												February 2012			
	APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 07: Operational Systems Development																												PROJECT NUMBER AND NAME 0734: Communications Security R&D			
Fiscal Year	2011				2012				2013				2014				2015				2016				2017							
	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																																
CRYPTO KG-3X Inc 2 (Note 1)		▲		▲																												
		KG-3X Inc 2 MS C/ LRIP		KG-3X Inc 2 FRP Decision																												
CRYPTO KG-45A (Note 2)											▲																					
											KG-45A FOC																					
CRYPTO KW-46M (Note 3)																																
CRYPTO Link- 22 MLLC		▲																														
		Link - 22 MLLC Prototype Award																														
CRYPTO VACM (Notes 4)																																
CRYPTO VACM LRIP																																
CRYPTO VACM FRP																																
Test & Evaluation Milestones																																
Development Test (D/T)																																
CRYPTO KG-3X Inc 2 IOT&E		▲																														
		KG-3X Inc 2 IOT&E																														
Operational Test (O/T)																																
CRYPTO KW-46M (Note 5)																																
CRYPTO VACM IOT&E																																

Note 1: KG-3X Inc 2 FRP Decision slipped from 2QFY11 to 4QFY11 due to contract delays. FRP Decision is driven by USAF (as lead service).
 Note 2: KG-45A FOC moved up from 2QFY13 to 1QFY13 due to battlegroup availability.
 Note 3: KW-46M IOC slipped from 2QFY11 to 2QFY12 to meet Common Submarine Radio Room (CSR) Increment 1 v3 IOC.
 Note 4: VACM MS C slipped from 1QFY13 to 3QFY13 and IOC slipped from 1QFY14 to 3QFY14 due to delay in US Air Force source selection. Milestones are driven by USAF (as lead service).
 Note 5: KW-46M integration test slipped from 1QFY12 to 2QFY12 due to availability of Naval Undersea Warfare Center (NUWC) test lab.

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy	DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>	PROJECT 0734: <i>Communications Security R&D</i>

EXHIBIT R4, Schedule Profile: PB 2013 Navy																					DATE: February 2012							
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 07: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>																				PROJECT NUMBER AND NAME 0734: <i>Communications Security R&D</i>							
Fiscal Year	2011				2012				2013				2014				2015				2016				2017			
	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
Deliveries																												
KG-3X Inc 2 (Note 1)																												
KW-46M CSRR (Note 2)																												
AN-PYQ-20(v)(c) (formerly KL-51M) (Note 3)																												
KG-45A																												
Link - 22 MLLC																												
VACM LRIP Deliveries (Note 4)																												
VACM FRP Deliveries (Note 5)																												

Note 1: KG-3X Inc 2 delivery moved up from 3QFY13 to 4QFY12 to meet the NSA cease key date.
 Note 2: KW-46M Common Submarine Radio Room (CSRR) delivery changed from 3QFY11 to 2QFY12 and 4QFY15 to 2QFY18 to meet CSRR inc 1v3 IOC.
 Note 3: AN/PYQ-20 (C) delivery moved up from 4QFY14 to 1QFY13 due to ship/ submarine availability.
 Note 4: VACM FRP delivery Start Date slipped from 3QFY13 to 1QFY14 due to Contract Award delay.

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy	DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>
PROJECT 0734: <i>Communications Security R&D</i>	

EXHIBIT R4, Schedule Profile: PB 2013 Navy																					DATE: February 2012							
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 07: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>																				PROJECT NUMBER AND NAME 0734: <i>Communications Security R&D</i>							
Fiscal Year	2011				2012				2013				2014				2015				2016				2017			
	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				▲																								
CND Inc 2 MS C				▲																								
CND Inc 2 IOC (Note 1)				▲				△																				
CND Inc 2 FOC																												△
Test & Evaluation Milestones																												
Development Test (D/T)				▲																								
CND Inc 2 DT				▲																								
MOC NetOps COP DT (Note 2)				▲																								
Operational Test (O/T)				▲																								
CND Inc 2 OA				▲																								
CND Inc 2 IOT&E								△																				
Production Milestones																												
CND Inc 2 LRIP Start/Complete				▲				△																				
CND Inc 2 FRP Decision																												△
MOC NetOps COP FOC (Note 2)																												
MOC NetOps COP IOC (Note 2)																												

Note 1: CND Inc 2 IOC slipped from 1QFY11 to 4QFY12 to match Capabilities Production Document (CPD) signed 13 AUG 2010.
 Note 2: Beginning in FY12, MOC Network Operations (NetOps) Common Operational Picture (COP) development efforts transitioned to CND to continue development of Cyber MOC capabilities and "to be" architecture.

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>	PROJECT 0734: <i>Communications Security R&D</i>
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EXHIBIT R4, Schedule Profile: PB 2013 Navy		DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 07: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>	PROJECT NUMBER AND NAME 0734: <i>Communications Security R&D</i>
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Fiscal Year	2011				2012				2013				2014				2015				2016				2017			
	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
Deliveries																												
CND Inc 2 Delivery (Note 1)																												
CND Inc 2 Delivery																												
MOC NetOps COP Build 14 (Note 2)																												
MOC NetOps COP Build 16 (Note 2)																												
Systems of Systems (SoS)																												
MOC NetOps COP TRR (Note 2)																												

Note 1: CND Inc 2 deliveries represent system refreshes/ updates and continue beyond FOC.
 Note 2: Beginning in FY12, MOC Network Operations (NetOps) Common Operational Picture (COP) development efforts transitioned to CND to continue development of Cyber MOC capabilities and "to be" architecture.

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>	PROJECT 0734: <i>Communications Security R&D</i>
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EXHIBIT R4, Schedule Profile: PB 2013 Navy	R-1 ITEM NOMENCLATURE PE 0303140N: Information Sys Security Program																												DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: Research, Development, Test & Evaluation, Navy BA 07: Operational Systems Development	PROJECT NUMBER AND NAME 0734: Communications Security R&D																												
Fiscal Year	2011				2012				2013				2014				2015				2016				2017				
	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																													
PKI Inc 2 Spiral 2 MS C			▲																										
PKI Inc 2, Spiral 3 IOC (Note 1)													△																
PKI Inc 2 FOC																													
Test & Evaluation Milestones																													
Operational Test (O/T)																													
PKI Inc 2, Spiral 1 IOT&E (Note 2)			▲																										

Note 1: PKI Inc 2, Spiral 3 IOC slipped from 2QFY13 to 3QFY13 due to NSA/DISA schedule delays.
 Note 2: PKI Inc 2, Spiral 1 IOT&E slipped from 2QFY11 to 3QFY11 due to NSA/DISA schedule delays.

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>	PROJECT 0734: <i>Communications Security R&D</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 0734				
EKMS - Phase V FOC	3	2014	3	2014
TKL - Contract Award	3	2011	3	2011
TKL - IOC	1	2013	1	2013
TKL - FOC	1	2015	1	2015
KMI CI-2 MS C	1	2012	1	2012
KMI CI-2 - IOC	3	2013	3	2013
KMI CI-2 - FOC	1	2017	1	2017
KMI CI-2 DT&E	2	2011	2	2011
KMI CI-2 - OA2	3	2012	3	2012
KMI CI-2 - IOT&E	3	2012	3	2012
TKL - FA Test	1	2012	1	2012
TKL - FRP Decision	3	2012	3	2012
KMI CI-2 Contract Award	2	2012	2	2012
KMI CI-2 - Spiral 1 FRP	1	2013	1	2013
KMI CI-2 - Spiral 2 FRP	1	2014	1	2014
EKMS - Phase V SW	1	2011	1	2013
EKMS SKL - Deliveries	1	2011	3	2013
TKL - Deliveries	1	2013	1	2015
KMI CI-2 Spiral 1 LRIP Deliveries	4	2012	4	2012
KMI CI-2 - Spiral 2 Deliveries	3	2013	1	2017
KMI CI-2 - Next Generation Fill Device	1	2013	1	2017

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>	PROJECT 0734: <i>Communications Security R&D</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
CRYPTO KG-3X - Inc 2 MS C/LRIP	2	2011	2	2011
CRYPTO KG 3X - Inc 2 FRP Decision	4	2011	4	2011
CRYPTO KG-45A - FOC	1	2013	1	2013
CRYPTO KW-46M - IOC	2	2012	2	2012
CRYPTO Link 22 MLLC - Prototype Award	2	2011	2	2011
CRYPTO VACM - MS C	3	2013	3	2013
CRYPTO VACM - IOC	3	2014	3	2014
CRYPTO VACM LRIP	3	2013	3	2013
CRYPTO VACM FRP	4	2013	4	2013
CRYPTO KG 3X - Inc 2 IOT&E	2	2011	2	2011
CRYPTO KW-46M - NUWC Integration Test	2	2012	2	2012
CRYPTO VACM IOT&E	4	2013	1	2014
CRYPTO KG-3X - Inc 2 Deliveries	1	2012	3	2012
CRYPTO KW-46M - CSRR Deliveries	2	2012	4	2017
CRYPTO AN-PYQ-20(v)(c)-(formerly KL-51M) Deliveries	1	2011	1	2013
CRYPTO KG-45A - Deliveries	1	2011	1	2013
CRYPTO Link-22 - MLLC Prototype Delivery	2	2012	2	2012
CRYPTO VACM LRIP Deliveries	3	2013	1	2014
CRYPTO VACM FRP Deliveries	1	2014	1	2017
PKI - Inc 2 Spiral 2 MS C	3	2011	3	2011
PKI - Inc 2 Spiral 3 IOC	3	2013	3	2013
PKI - Inc 2 FOC	2	2014	2	2014
PKI - Inc 2 Spiral 1 IOT&E	3	2011	3	2011
CND - Inc 2 MS C	4	2011	4	2011
CND - Inc 2 IOC	4	2012	4	2012

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>	PROJECT 0734: <i>Communications Security R&D</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
CND - Inc 2 FOC	4	2016	4	2016
CND - Inc 2 DT	3	2011	3	2011
CND - Inc 2 OA	3	2011	3	2011
CND - Inc 2 IOT&E	3	2012	3	2012
CND - Inc 2 LRIP	4	2011	3	2012
CND - Inc 2 FRP Decision	4	2012	4	2012
CND - Inc 2 Delivery	1	2012	4	2017

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>	PROJECT 3230: <i>Information Assurance</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
3230: <i>Information Assurance</i>	2.911	2.778	2.666	-	2.666	2.761	2.658	2.677	2.733	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The goal of the Navy Information Systems Security Program (ISSP) is to ensure the continued protection of Navy and joint information and information systems from hostile exploitation and attack. ISSP activities address the triad of Defense Information Operations: protection, detection, and reaction. Evolving attack sensing (detection), warning, and response (reaction) responsibilities extend far beyond the traditional ISSP role in protection or Information Systems Security (INFOSEC). Focused on the highly mobile forward-deployed subscriber, the Navy's adoption of Network-Centric Warfare (NCW) places demands upon the ISSP, as the number of users explodes and the criticality of their use escalates. Today, the ISSP protects an expanding core of services critical to the effective performance of the Navy's mission.

The rapid rate of change in the underlying commercial and government information infrastructures makes the provision of security an increasingly complex and dynamic problem. Information Assurance (IA) technology mix and deployment strategies must evolve quickly to meet rapidly evolving threats and vulnerabilities. No longer can information security divorce the information infrastructure. The ISSP enables the Navy's war fighter to trust in the availability, integrity, authentication, privacy, and non-repudiation of information.

This project includes funds for advanced technology development, test and evaluation of naval information systems security based on leading edge technologies that will improve information assurance (e.g., situational awareness and information infrastructure protection) across all command echelons to tactical units afloat and war fighters ashore. This effort will provide the research to develop a secure seamless interoperable, common operational environment of networked information systems in the battle space and for monitoring and protecting the information infrastructure from malicious activities. This effort will provide naval forces a secure capability and basis in its achievement of protection from unauthorized access and misuse, and optimized IA resource allocations in the information battle space. This program will also develop core technology to improve network infrastructure resistance and resiliency to attacks; enable the rapid development and certification of security-aware applications and information technologies in accordance with the Common Criteria for IA and IA-enabled information technology products by the National Security Telecommunications and Information Systems Security Instructions; and measure the effectiveness and efficiency of IA defensive capabilities under naval environments.

The program will develop common architectural frameworks that facilitate integration of network security capabilities, enable effective seamless interoperation, and contribute to a common consistent picture of the networked environment with respect to information assurance and security. This effort will address the need for a common operational picture for IA, as well as assessment of security technology critical to the success of the mission. Initiate requirements definition for situation awareness capabilities to support computer network defense in highly distributed, homogeneous, and heterogeneous networks including mobile and embedded networked devices. This effort also includes the architectural definition of situational awareness and visualization capabilities to support active computer network defense and support underlying data mining and correlation tools. This includes addressing the capability to remotely manage and securely control the configurations of network security components to implement changes in real time or near real time. Initiate requirements definition for secure coalition data exchange and interoperation

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>	PROJECT 3230: <i>Information Assurance</i>
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among security levels and classifications. Ensure approaches address various security level technologies as well as emerging architectural methods of providing interoperability across different security levels. Examine multi-level aware applications and technologies including databases, web browsers, routers/switches, etc. Initiate infrastructure protection efforts as the Navy develops network centric architectures and warfare concepts, ensuring an evolutionary development of security architectures and products for IA that addresses Navy infrastructure requirements. Ensure the architectures evolve to provide proper protection as technology, DoD missions, and the threat all evolve. Include defensive protections as well as intrusion monitoring (sensors), warning mechanisms, and response capabilities in the architecture. Ensure the unique security and performance requirements of tactical systems, including those operating various security levels are addressed. Initiate the efforts to conceptualize new network centric warfare technology to protect our assets, such as secure network gateways and routers, and components and tools that improve the survivability of Navy networks. Provide systems security engineering, certification and accreditation support for high-confidence naval information system and ensure certification and accreditation approaches are consistent with Navy and DoD requirements.

Major focus area in FY13: Continue development of new network security addressing nation state level sponsored activity. Incorporate security services to thwart DNS attacks, distributed denial of service, botnet and other sophisticated attacks.

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

	FY 2011	FY 2012	FY 2013
<p>Title: Information Assurance</p> <p align="right">Articles:</p>	2.911 0	2.778 0	2.666 0
<p>FY 2011 Accomplishments:</p> <p>Completed the development of the technology that protects, assesses and responds to attacks of the infrastructure framework and provided reconstitution capabilities/services; assessed in representative operational environments. Completed the development of modernized attack sensing and warning mechanisms based on new detection algorithms and data mining concepts, and response capabilities for the architecture/framework. Continued the development of a new high assurance boundary controller to protect Navy and Marine Corps data and resources from attack. Ensured the security services included, at a minimum, encryption and data malware analysis in the boundary controller as well as the ability to adjust routing of communications based on network stress levels. Continued the development of a high-assurance computing environment for Navy and Marine Corps use based on trusted platform technology. Continued the development of the appropriate core code, security messages and assurance functions required. Continued the development of new key and enabling technologies, management tools, and capabilities to address specific Navy and Marine Corps needs. Ensured the new solutions address distribution and management in bandwidth limited environments and tactical environments. Initiated the development of mobile security techniques that introduce time and location-based security parameters for geo-location and asset protection and management. Addressed the specific issues of geo-location and mapping in Global Positioning System (GPS) constrained environments. Continued systems security engineering, certification and accreditation support for high-confidence naval information systems and ensured certification and accreditation approaches are consistent with Navy and DoD requirements.</p>			
<p>FY 2012 Plans:</p> <p>Initiate the development of new network security technology focused on addressing nation state level sponsored activity. Address the growing threat by providing robust characterization of attacks/profiles to increase detection rates of the technology and to</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>	PROJECT 3230: <i>Information Assurance</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2011	FY 2012	FY 2013
<p>support attribution of threat actions across network boundaries. Continue the development of a new high assurance boundary controller to protect Navy and Marine Corps data and resources from attack. Ensure the security services include, at a minimum, encryption and data malware analysis in the boundary controller as well as the ability to adjust routing of communications based on network threat-action levels. Complete the development of a high-assurance computing environment for Navy and Marine Corps use based on trusted platform technology. Complete the development of the appropriate core code, security messages and assurance functions required to ensure platform hardware and software protection. Complete the development of new key and enabling technologies, management tools, and capabilities to address specific Navy and Marine Corps needs. Ensure the new solutions address distribution and management in bandwidth limited environments and tactical environments. Continue the development of mobile security techniques that introduce time and location-based security parameters for geo-location and asset protection and management. Address the specific issues of geo-location and mapping in GPS constrained environments. Initiate the development of critical cryptographic technology to support Navy unique platforms and requirements. Ensure the technology addresses the limited size, weight and power issues, multiple data classification processing requirements, and provide on-the-fly programmability of mission data and key material to support various missions. Continue systems security engineering, certification and accreditation support for high-confidence naval information systems and ensure certification and accreditation approaches are consistent with Navy and DoD requirements.</p> <p>FY 2013 Plans: Continue the development of new network security technology focused on addressing nation state level sponsored activity. Continue characterizing attacks/profiles to increase detection rates of the technology - focusing on embedded malicious code and exfiltration of data from host environments. Continue development of attribution technology, focusing on nation state activities across network boundaries that obfuscate traffic using techniques such as anonymization. Continue the development of a new high assurance boundary controller to protect Navy and Marine Corps data and resources from attack. Incorporate security services to thwart DNS attacks, distributed denial of service attacks, and botnet attacks, as well as sophisticated attacks to control the core, operating environment. Ensure essential robust communications are available through the boundary controller to provide continuity of operations during nation state sponsored attacks. Initiate development of a security framework for a federated cross-domain service oriented architecture (SOA). Ensure the framework addresses all critical aspects of SOA including cross-domain service discovery, identity management, and service invocation, while minimizing inference attacks. Initiate the development of a security framework for mobile communication devices that allow the use/integration of commercial technology in a secure manner. Initial efforts focus on identity management and secure data storage, processing and exchange. Continue the development of mobile security techniques that introduce time and location-based security parameters for geo-location and asset protection and management. Address the specific issues of geo-location and mapping in Global Positioning System (GPS) constrained environments. Continue the development of critical cryptographic technology to support Navy unique platforms and requirements (e.g., unmanned autonomous systems (UASs)). Ensure the technology addresses the limited size, weight and power issues, multiple data classification processing requirements, and provide on-the-fly programmability of mission</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>	PROJECT 3230: <i>Information Assurance</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
data and key material to support various missions. Continue systems security engineering, certification and accreditation support for high-confidence naval information systems and ensure certification and accreditation approaches are consistent with Navy and DoD requirements.			
Accomplishments/Planned Programs Subtotals	2.911	2.778	2.666

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

N/A

D. Acquisition Strategy

This project funds advanced development, test and evaluation of naval information systems security based on leading edge technologies that will improve information assurance (e.g., situational awareness and information infrastructure protection) across all Command echelons to tactical units afloat and war fighters ashore. This effort will provide the research to develop a secure seamless interoperable, common operational environment of networked information systems in the battle space and for monitoring and protecting the information infrastructure from malicious activities. Technologies developed are not transitioned into a acquisition program within the ISSP OPN (BLI 3415) budget.

E. Performance Metrics

Cryptographic Modernization (CM):

- * Develop new emerging cryptographic technology for airborne applications by reducing the form-factor by 30%, and provide multi-channel, field reprogrammable cryptos that can be reprogrammed with algorithms in less than 1 minute. Increase throughput capabilities by 50% to meet high speed networks and develop new network-aware cryptographic technology to maximize bandwidth usage.

Computer Network Defense (CND):

- * Develop new algorithms to provide real-time detection of nation state malware attacks against DoN networks. Detection algorithms shall be used by both host-based sensors and network sensors to provide a 100% detection of known/programmed malware.
- * Develop new malware analysis technology to decrease the analysis time by 50%, thus providing support for zero-day attacks.

Wireless Security:

- * Develop new wireless signal discovery technology to increase detection by 30% and increase the bandwidth sensitivity by 20% thus allowing analysis and protection of DoN assets used in the wider emerging wireless spectrum.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>	PROJECT 9999: <i>Congressional Adds</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
9999: <i>Congressional Adds</i>	-	12.000	-	-	-	-	-	-	-	0.000	12.000
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Computer Network Defense (CND) will accelerate and improve the cyber security, situational awareness, and efficiency of OCONUS Naval Enterprise Network (ONE-Net) and Information Technology for the 21st Century (IT-21) networks. Efforts will focus on enabling development of Navy high speed tactical network sensors. Conduct systems engineering and architect Theater Network Operations and Security (TNSOC) modifications required to support ONE-Net environment security enhancements and network efficiencies. Establish lab environment that can support the development of Ozone Widget framework tools. Begin to develop the architecture and integrate tools that support the automation of certification and accreditation processes in line with Defense Information Systems Agency (DISA) imperatives for continuous network monitoring and risk scoring. Determine optimal technical and governance solution for interception of outbound encrypted traffic, allowing for inspection and control. Update the CND development lab hardware to ensure Charleston Network Operations Center (CHASNOC), SSC Pacific Afloat, and End-to-End (E2C) labs contain the most current CND cyber security technologies. This will also promote comprehensive implementation of Host Based Security Systems (HBSS) and other DoD mandated tools and capabilities.

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

	FY 2011	FY 2012
Congressional Add: Cyber Security Research (Cong)	-	12.000
FY 2012 Plans: Computer Network Defense (CND) will accelerate and improve the cyber security, situational awareness, and efficiency of OCONUS Naval Enterprise Network (ONE-Net) and Information Technology for the 21st Century (IT-21) networks. Efforts will focus on enabling development of Navy high speed tactical network sensors. Conduct systems engineering and architect Theater Network Operations and Security (TNSOC) modifications required to support ONE-Net environment security enhancements and network efficiencies. Establish lab environment that can support the development of Ozone Widget framework tools. Begin to develop the architecture and integrate tools that support the automation of certification and accreditation processes in line with Defense Information Systems Agency (DISA) imperatives for continuous network monitoring and risk scoring. Determine optimal technical and governance solution for interception of outbound encrypted traffic, allowing for inspection and control. Update the CND development lab hardware to ensure Charleston Network Operations Center (CHASNOC), SSC Pacific Afloat, and End-to-End (E2C) labs contain the most current CND cyber security technologies. This will also promote comprehensive implementation of Host Based Security Systems (HBSS) and other DoD mandated tools and capabilities.		
Congressional Adds Subtotals	-	12.000

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>	PROJECT 9999: <i>Congressional Adds</i>
C. Other Program Funding Summary (\$ in Millions) N/A		
D. Acquisition Strategy Congressional Adds.		
E. Performance Metrics Congressional Adds.		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303140N: <i>Information Sys Security Program</i>	PROJECT 9999: <i>Congressional Adds</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 PAC/ SSC LANT:San Diego, CA/ Charleston, SC	-	10.090	May 2012	-		-		-	0.000	10.090	
Subtotal			-	10.090		-		-		-	0.000	10.090	

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Requirements Analysis	WR	NRL:Washington, DC	-	1.250	May 2012	-		-		-	0.000	1.250	
Subtotal			-	1.250		-		-		-	0.000	1.250	

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	BAH:San Diego, CA	-	0.660	May 2012	-		-		-	0.000	0.660	
Subtotal			-	0.660		-		-		-	0.000	0.660	

			Total Prior Years Cost	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	12.000	-	-	-	0.000	12.000	

Remarks

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303150M: <i>WWWCCS/GLOBAL COMMAND AND CONTROL SYSTEM</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	-	1.250	0.500	-	0.500	0.262	0.150	0.200	-	0.000	2.362
2270: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>	-	1.250	-	-	-	-	-	-	-	0.000	1.250
4041: <i>Global Force Mgmt - DI (GFM-DI) for Global Cmd and Cont Sys (GCCS)</i>	-	-	0.500	-	0.500	0.262	0.150	0.200	-	0.000	1.112

A. Mission Description and Budget Item Justification

PE 0303150M reflects a portion of the Global Force Management-Data Initiative (GFM-DI) advocated by the VCJCS. Funding enhancements support GFM-DI implementation of the Force Management and Adaptive Planning Processes by FY13 and Financial, Health Records, and Information Assurance by FY16.

B. Program Change Summary (\$ in Millions)

	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013 Base</u>	<u>FY 2013 OCO</u>	<u>FY 2013 Total</u>
Previous President's Budget	-	1.250	1.000	-	1.000
Current President's Budget	-	1.250	0.500	-	0.500
Total Adjustments	-	-	-0.500	-	-0.500
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	-	-	-0.500	-	-0.500

Change Summary Explanation

Funding supports the Joint Global Force Management - Data Initiative (GFM-DI).

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303150M: <i>WWWCCS/GLOBAL COMMAND AND CONTROL SYSTEM</i>	PROJECT 2270: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2270: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>	-	1.250	-	-	-	-	-	-	-	0.000	1.250
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Global Command and Control System (GCCS) - Consists of Command and Control (C2) subsystems which provide Combatant Commanders, the Joint Staff and other Tactical Commanders a near real time picture of the battle space necessary to conduct joint and multinational operations of U.S. Military Forces. This effort specifically supports developmental efforts for Global Force Management-Data Initiative (GFM-DI). GFM-DI will make force structure authorization data visible, accessible and understandable across the Department and will provide the authoritative data source for all DoD force structure as directed by Joint Planning Guidance VII, dated June 2006.

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

	FY 2011	FY 2012	FY 2013
Title: Marine Corps Unit Reference Number (URN) Repository Articles: FY 2012 Plans: Link Organization Unique Identifier's (OUID's) to Unit Reference Numbers in USMC Unit Reference Number Repository.	-	0.500 0	-
Title: Marine Corps Slider Sourcing Application Articles: FY 2012 Plans: Develop USMC Sourcing Tool to automate allocation process using MCOS force structure.	-	0.500 0	-
Title: Global Command and Control System Articles: FY 2012 Plans: Conduct mapping of OUID's to other identifies and work with Program Managers regarding cost, schedule, and implementation (e.g. Unit Identification Code (UIC), Derivative Unit Identification Code (DUIC)).	-	0.250 0	-
Accomplishments/Planned Programs Subtotals	-	1.250	-

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

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303150M: <i>WWMCCS/GLOBAL COMMAND AND CONTROL SYSTEM</i>	PROJECT 2270: <i>Exp Indirect Fire Gen Supt Wpn Sys</i>

D. Acquisition Strategy

This will be a phased implementation led by the Joint Staff J8 Models and Analysis Support Office (MASO).

E. Performance Metrics

Technical: This exhibit reflects a break-out of GFM-DI efforts into unique USMC PE's.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303150M: <i>WWWCCS/GLOBAL COMMAND AND CONTROL SYSTEM</i>	PROJECT 4041: <i>Global Force Mgmt - DI (GFM-DI) for Global Cmd and Cont Sys (GCCS)</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
4041: <i>Global Force Mgmt - DI (GFM-DI) for Global Cmd and Cont Sys (GCCS)</i>	-	-	0.500	-	0.500	0.262	0.150	0.200	-	0.000	1.112
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Global Command and Control System (GCCS) - Consists of Command and Control (C2) subsystems which provide Combatant Commanders, the Joint Staff and other Tactical Commanders a near real time picture of the battle space necessary to conduct joint and multinational operations of U.S. Military Forces. This effort specifically supports developmental efforts for Global Force Management-Data Initiative (GFM-DI). GFM-DI will make force structure authorization data visible, accessible and understandable across the Department and will provide the authoritative data source for all DoD force structure as directed by Joint Planning Guidance VII, dated June 2006.

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

	FY 2011	FY 2012	FY 2013
Title: Marine Corps Unit Reference Number (URN) Repository Articles: FY 2013 Plans: Link Organization Unique Identifier's (OUID's) to Unit Reference Numbers in USMC Unit Reference Number Repository.	-	-	0.175 0
Title: Marine Corps Slider Sourcing Application Articles: FY 2013 Plans: Develop USMC Sourcing Tool to automate allocation process using MCOS force structure.	-	-	0.175 0
Title: Global Command and Control System Articles: FY 2013 Plans: Conduct mapping of OUID's to other identifiers and work with Program Managers regarding cost, schedule, and implementation (e.g. Unit Identification Code (UIC), Derivative Unit Identification Code (DUIC)).	-	-	0.150 0
Accomplishments/Planned Programs Subtotals	-	-	0.500

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

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303150M: <i>WWMCCS/GLOBAL COMMAND AND CONTROL SYSTEM</i>	PROJECT 4041: <i>Global Force Mgmt - DI (GFM-DI) for Global Cmd and Cont Sys (GCCS)</i>

D. Acquisition Strategy

This will be a phased implementation led by the Joint Staff J8 Models and Analysis Support Office (MASO).

E. Performance Metrics

Technical: This exhibit reflects a break-out of GFM-DI efforts into unique USMC PE's.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303238N: <i>Consolidated Afloat Network Ent SVCS(CANES)-MIP</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	9.334	6.602	-	-	-	-	-	-	-	0.000	15.936
9C87: <i>CANES Integration</i>	9.334	6.602	-	-	-	-	-	-	-	0.000	15.936

Note

CANES is a Department of the Navy (DoN) efficiency initiative. CANES Military Intelligence Program (MIP) related funding under PE 0303238N investment ends in FY 2012. MIP requirements transition to PE 0303138N beginning in FY 2013.

A. Mission Description and Budget Item Justification

Consolidated Afloat Networks & Enterprise Services (CANES) is a Department of Navy (DoN) Efficiency Initiative and is the Navy's only Program of Record (POR) to replace existing afloat networks and provide the necessary infrastructure for applications, systems, and services to operate in the tactical domain. CANES is the technical and infrastructure consolidation of existing, separately managed afloat networks currently under PE 0204163N (LI 3050) Ship Communications Automation, including Integrated Shipboard Network Systems (ISNS), Combined Enterprise Regional Information Exchange System - Maritime (CENTRIXS-M), Sensitive Compartmented Information (SCI) Networks, and Submarine Local Area Network (SubLAN). These legacy afloat network designs are End of Life starting in FY 2012 and CANES will replace these existing, unaffordable, and obsolete networks.

The fundamental goal of CANES is to bring Infrastructure and Platform as a Service (IaaS / PaaS), within which current and future iterations of Tasking, Collection, Processing, Exploitation and Dissemination (TCPED) computing and storage capabilities will reside. CANES will provide complete infrastructure, inclusive of hardware, software, processing, storage and end user devices for Unclassified, Coalition, Secret and SCI for all basic network services (email, web, chat, collaboration) to a wide variety of Navy surface combatants, submarines, Maritime Operations Centers, and Aircraft. In addition, ~36 hosted applications and systems inclusive of Command and Control, Intelligence, Surveillance and Reconnaissance, Information Operations, Logistics and Business domains require the CANES infrastructure to operate in the tactical environment. Integrating these applications and systems is accomplished through Application Integration (AI), the engineering process used to evaluate and validate compatibility between the CANES IaaS / PaaS and the Navy-validated applications, systems and services that will utilize the CANES infrastructure and services. Specific programs, such as Distributed Common Ground System - Navy (DCGS-N), Global Command and Control System - Maritime (GCCS-M), Naval Tactical Command Support System (NTCSS), and Undersea Warfare Decision Support System (USW-DSS), are dependent on the CANES Common Computing Environment (CCE) to field, host, and sustain their capability because they no longer provide their own hardware. CANES requires that Automated Digital Network System (ADNS) field prior to or concurrently with CANES due to architectural reliance between the two programs.

CANES will field on a rolling four year hardware baseline and a two year software baseline. CANES is based on the overarching concept of reducing the number of afloat networks and providing enhanced efficiency through a single engineering focus on integrated technical solutions. This will allow for streamlined acquisition, contracting test events, and significant lifecycle efficiencies through consolidation of multiple current configuration management baselines, logistics, and training efforts into a unified support structure.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303238N: <i>Consolidated Afloat Network Ent SVCS(CANES)-MIP</i>
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CANES Military Intelligence Program (MIP) related funding under PE 0303238N investment ends in FY 2012. MIP requirements transition to PE 0303138N beginning in FY 2013.

B. Program Change Summary (\$ in Millions)	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013 Base</u>	<u>FY 2013 OCO</u>	<u>FY 2013 Total</u>
Previous President's Budget	8.375	6.602	-	-	-
Current President's Budget	9.334	6.602	-	-	-
Total Adjustments	0.959	-	-	-	-
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	1.002	-			
• SBIR/STTR Transfer	-	-			
• Congressional General Reductions Adjustments	-0.043	-	-	-	-

Change Summary Explanation

Funding: CANES Military Intelligence Program (MIP) related funding under PE 0303238N investment ends in FY 2012. MIP requirements transition to PE 0303138N beginning in FY 2013.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303238N: <i>Consolidated Afloat Network Ent SVCS(CANES)-MIP</i>	PROJECT 9C87: <i>CANES Integration</i>
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COST (\$ in Millions)	FY 2011		FY 2012		FY 2013		FY 2014		FY 2015		Cost To Complete	Total Cost
	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017			
9C87: <i>CANES Integration</i>	9.334	6.602	-	-	-	-	-	-	-	-	0.000	15.936
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0		

Note

CANES is a Department of the Navy (DoN) efficiency initiative. CANES Military Intelligence Program (MIP) related funding under PE 0303238N investment ends in FY12. MIP requirements transition to PE 0303138N beginning in FY13.

A. Mission Description and Budget Item Justification

Consolidated Afloat Networks & Enterprise Services (CANES) is a Department of Navy (DoN) Efficiency Initiative and is the Navy's only Program of Record (POR) to replace existing afloat networks and provide the necessary infrastructure for applications, systems, and services to operate in the tactical domain. CANES is the technical and infrastructure consolidation of existing, separately managed afloat networks currently under PE 0204163N (LI 3050) Ship Communications Automation, including Integrated Shipboard Network Systems (ISNS), Combined Enterprise Regional Information Exchange System - Maritime (CENTRIXS-M), Sensitive Compartmented Information (SCI) Networks, and Submarine Local Area Network (SubLAN). These legacy afloat network designs are End of Life starting in FY 2012 and CANES will replace these existing, unaffordable, and obsolete networks.

The fundamental goal of CANES is to bring Infrastructure and Platform as a Service (IaaS / PaaS), within which current and future iterations of Tasking, Collection, Processing, Exploitation and Dissemination (TCPED) computing and storage capabilities will reside. CANES will provide complete infrastructure, inclusive of hardware, software, processing, storage and end user devices for Unclassified, Coalition, Secret and SCI for all basic network services (email, web, chat, collaboration) to a wide variety of Navy surface combatants, submarines, Maritime Operations Centers, and Aircraft. In addition, ~36 hosted applications and systems inclusive of Command and Control, Intelligence, Surveillance and Reconnaissance, Information Operations, Logistics and Business domains require the CANES infrastructure to operate in the tactical environment. Integrating these applications and systems is accomplished through Application Integration (AI), the engineering process used to evaluate and validate compatibility between the CANES IaaS / PaaS and the Navy-validated applications, systems and services that will utilize the CANES infrastructure and services. Specific programs, such as Distributed Common Ground System - Navy (DCGS-N), Global Command and Control System - Maritime (GCCS-M), Naval Tactical Command Support System (NTCSS), and Undersea Warfare Decision Support System (USW-DSS), are dependent on the CANES Common Computing Environment (CCE) to field, host, and sustain their capability because they no longer provide their own hardware. CANES requires that Automated Digital Network System (ADNS) field prior to or concurrently with CANES due to architectural reliance between the two programs.

CANES will field on a rolling four year hardware baseline and a two year software baseline. CANES is based on the overarching concept of reducing the number of afloat networks and providing enhanced efficiency through a single engineering focus on integrated technical solutions. This will allow for streamlined acquisition, contracting, and test events, and significant lifecycle efficiencies through consolidation of multiple current configuration management baselines, logistics, and training efforts into a unified support structure.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303238N: <i>Consolidated Afloat Network</i> <i>Ent SVCS(CANES)-MIP</i>	PROJECT 9C87: <i>CANES Integration</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Title: CANES Integration	9.334	6.602	-
Articles:	0	0	
FY 2011 Accomplishments: Continued development of CANES statutory and regulatory acquisition documentation to achieve Milestone C (MS C). Continued revision of Cost Analysis Requirements Document (CARD) and Life Cycle Cost Estimate (LCCE). Conducted Developmental Testing (DT) and prepared Operational Assessment (OA) event in support of MS C. Continued Engineering and Manufacturing Development (EMD) contract development of platform set 1 and 2 baseline. Developed Request for Proposal for Full Deployment contract and associated source selection activities. Achieved MS B.			
FY 2012 Plans: Complete development of statutory and regulatory acquisition documentation to achieve CANES MS C. Revise CARD and LCCE in support of Navy's Service Cost Position (SCP) for MS C. Conduct OA in support of MS C. Preparation begins for Initial Operational Test and Evaluation (IOT&E) on Unit level platforms to complete operational testing. Continue hosted system integration testing and Application Integration (AI) as they migrate to CANES baseline. Prepare Enterprise Engineering and Certification (E2C) lab for testing on platform set 1 and 2 baselines. Commence Source Selection activities associated with Full Deployment contract and development of platform set 3 and 4 baselines. Achieve MS C.			
Accomplishments/Planned Programs Subtotals	9.334	6.602	-

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

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• OPN/2915: CANES	10.208	96.088	283.628	0.000	283.628	314.812	291.514	351.225	342.807	4,893.728	6,585.187
• OPN/2925: CANES INTELL	3.123	72.313	79.427	0.000	79.427	60.666	69.830	56.274	60.338	1,045.823	1,447.794
• RDTE/0303138N: CANES INTEGRATION	42.417	24.855	15.415	0.000	15.415	14.847	13.994	13.116	13.329	272.368	455.664

D. Acquisition Strategy

CANES was identified as an ACAT IAM MAIS. Formal program initiation occurred at MS B (2QFY11). The program office is employing a multiple-phase, multiple-award down-select contract strategy to reduce program risks and maintain competition in both design development and production during contract performance. Two competitive contracts have been awarded to design, develop, and deliver all hardware and the associated operating system, virtualization and other commercial software needed to deliver a functional network. As the program accomplishes Engineering and Manufacturing Development (EMD), a down-select will be conducted to choose the best design for Limited Deployment (LD). At the completion of LD, a separate full and open contract will be awarded for Full Deployment (FD).

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0303238N: <i>Consolidated Afloat Network Ent SVCS(CANES)-MIP</i>	PROJECT 9C87: <i>CANES Integration</i>

E. Performance Metrics

Early RDT&E investment and sustainment of dual design contractors through the development phase will save 10-30% of Total Ownership Cost (TOC) over the life cycle of the program. Cost avoidance throughout the life of the program is based on performance gains that are measured (not quantified) by 1) reducing the number of networks through the use of mature, certified, cross domain technologies; 2) reducing the infrastructure footprint and associated costs for hardware afloat; and 3) providing increased capability to meet current and projected warfighter requirements.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305149N: <i>Cobra Judy</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	36.278	40.605	17.091	-	17.091	-	-	-	-	0.000	93.974
4021: <i>CJR System Engineering</i>	36.278	40.605	17.091	-	17.091	-	-	-	-	0.000	93.974

A. Mission Description and Budget Item Justification

Cobra Judy Replacement funds will replace the current U.S. Naval Ship (USNS) Observation Island which has become unsustainable and due to leave service in 2014. This program funds the development of a single ship-based radar suite for ballistic missile treaty verification. Cobra Judy provides monitoring and verification of specific aspects of United States treaties with other countries. It is necessary to replace the current Cobra Judy to prevent any potential gap in coverage. Prior studies have indicated that a ship-based radar replacement is the most timely and cost effective solution. This program is joint-funded.

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	36.527	40.605	17.092	-	17.092
Current President's Budget	36.278	40.605	17.091	-	17.091
Total Adjustments	-0.249	-	-0.001	-	-0.001
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	-	-	-0.001	-	-0.001
• Congressional General Reductions Adjustments	-0.249	-	-	-	-

Change Summary Explanation

Schedule:

- ME Ship Integration moved from 4th Qtr FY11 to 2nd Qtr FY 13
- Ship Delivery moved from 3rd Qtr FY11 to 2nd Qtr FY12
- Tech Eval moved from 1st Qtr FY13 to 2nd Qtr FY13

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305149N: <i>Cobra Judy</i>	PROJECT 4021: <i>CJR System Engineering</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
4021: <i>CJR System Engineering</i>	36.278	40.605	17.091	-	17.091	-	-	-	-	0.000	93.974
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

Cobra Judy Replacement funds will replace the current U.S. Naval Ship (USNS) Observation Island which has become unsustainable and due to leave service in 2014. This program will fund the development of a single ship-based radar suite for ballistic missile treaty verification. Cobra Judy provides monitoring and verification of specific aspects of United States treaties with other countries. It is necessary to replace the current Cobra Judy to prevent any potential gap in coverage. Prior studies have indicated that a ship-based radar replacement is the most timely and cost effective solution. This program is joint-funded.

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

	FY 2011	FY 2012	FY 2013
<p>Title: DESIGN AND RISK REDUCTION</p> <p align="right">Articles:</p> <p>FY 2011 Accomplishments:</p> <ul style="list-style-type: none"> - Completed Common Back End software development - Completed S-Band array development testing - Began Mission Equipment installation on Ship <p>FY 2012 Plans:</p> <ul style="list-style-type: none"> - Continued installation of Mission Equipment on Ship - Integration of Mission Equipment on Ship <p>FY 2013 Plans:</p> <ul style="list-style-type: none"> - Integration of Mission Equipment on Ship 	24.214 0	30.172 0	10.835 0
<p>Title: SYSTEMS ENGINEERING</p> <p align="right">Articles:</p> <p>FY 2011 Accomplishments:</p> <ul style="list-style-type: none"> - Continue Ship installation of non-prime mission equipment <p>FY 2012 Plans:</p> <ul style="list-style-type: none"> - Integration of non-prime mission equipment <p>FY 2013 Plans:</p> <ul style="list-style-type: none"> - Integration of non-prime mission equipment 	3.807 0	3.954 0	2.890 0
Title: TEST AND EVALUATION	8.257	6.479	3.366

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305149N: <i>Cobra Judy</i>	PROJECT 4021: <i>CJR System Engineering</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
<i>Articles:</i>	0	0	0
<i>FY 2011 Accomplishments:</i> - Radar & ship integration and test - Ship crew contracts after ship delivery			
<i>FY 2012 Plans:</i> - Radar & ship integration and test - Ship crew contracts after ship delivery			
<i>FY 2013 Plans:</i> - Radar & ship integration and test - Ship crew contracts after ship delivery			
Accomplishments/Planned Programs Subtotals	36.278	40.605	17.091

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 0303901N/4003: <i>Cobra Judy</i> <i>Replacement</i>	34.457	39.963	16.000	0.000	16.000	0.000	0.000	0.000	0.000	0.000	143.714

D. Acquisition Strategy
The acquisition strategy calls for leveraging ongoing Navy Ballistic Missile Defense (BMD) radar development, updating existing user interface/communications/data handling equipment designs from a similar operational unit and purchasing and integrating the mission equipment aboard an appropriate merchant-class hull. System design will be accomplished using in-hand technologies and commercial standards to lower schedule risk and produce a product with the lowest possible life-cycle cost.

- E. Performance Metrics**
- Successfully complete Design Reviews & MDA-Level Reviews
 - Successfully complete Initial Operational Capability (IOC)
 - Successfully complete X-Band Development
 - Successfully complete S-Band Radar Development
 - Successfully complete Mission Equipment String Integration
 - Successfully complete ME Ship Integration
 - Successfully complete Mission Communications Suite Lightoff
 - Ship Delivery

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305149N: <i>Cobra Judy</i>	PROJECT 4021: <i>CJR System Engineering</i>
<ul style="list-style-type: none">-Successfully complete TECHEVAL/Post Delivery Test & Trails-Successfully complete Operational Test & Readiness Review (OTRR)-Successfully complete IOT&E Initial Operational Test OPEVAL		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305149N: <i>Cobra Judy</i>	PROJECT 4021: <i>CJR System Engineering</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 Risk Reduction	Allot	NAVSEA 05C:Washington DC	0.150	0.150	Oct 2011	0.150	Oct 2012	-		0.150	0.000	0.450	
Design and Risk Reduction	C/CPIF	Raytheon:Sudbury, MA	587.742	27.772	Jan 2012	10.685	Oct 2012	-		10.685	0.000	626.199	
Shipbuilding	C/FFP	PEO Ships:Washington, DC	100.815	-		-		-		-	0.000	100.815	
Design and Risk Reduction	WR	SPAWAR:San Diego, CA	8.405	2.250	Dec 2011	-		-		-	0.000	10.655	
Design and Risk Reduction	C/CPAF	MIT/TWS:Hanscom AFB, MA	0.500	-		-		-		-	0.000	0.500	
Subtotal			697.612	30.172		10.835		-		10.835	0.000	738.619	

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	Various	Various:Various	8.764	-		-		-		-	0.000	8.764	
System Engineering	C/CPAF	BAE:Rockville, MD	0.840	-		-		-		-	0.000	0.840	
System Engineering	C/CPAF	GTRI:Atlanta, GA	2.868	0.500	Dec 2011	0.350	Dec 2012	-		0.350	0.000	3.718	
System Engineering	C/CPFF	JHU/APL:Laurel, MD	5.790	-		-		-		-	0.000	5.790	
System Engineering	C/CPAF	MIT/LL:Hanscom AFB, MA	6.914	-		-		-		-	0.000	6.914	
System Engineering	WR	NRL:Washington, DC	2.405	0.425	Oct 2011	0.450	Oct 2012	-		0.450	0.000	3.280	
System Engineering	WR	NSWC CSS:Panama City, FL	2.942	-		-		-		-	0.000	2.942	
System Engineering	WR	NSWC DD:Dahlgren, VA	12.401	0.850	Dec 2011	-		-		-	0.000	13.251	
System Engineering	WR	NSWC PHD:Port Hueneme, CA	1.535	-		-		-		-	0.000	1.535	
System Engineering	Allot	PEO Ships:Washington, DC	3.000	-		-		-		-	0.000	3.000	
System Engineering	WR	SEG:Columbia, MD	1.195	-		-		-		-	0.000	1.195	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305149N: <i>Cobra Judy</i>	PROJECT 4021: <i>CJR System Engineering</i>
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Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	SPAWAR:San Diego,CA	5.659	-		-		-		-	0.000	5.659	
Systems Engineering	WR	NSWC/CRANE:Crane, IN	0.307	-		-		-		-	0.000	0.307	
System Engineering	WR	Military Sealift Command:Washington, DC	-	2.179	Feb 2012	2.090	Dec 2012	-		2.090	0.000	4.269	
Subtotal			54.620	3.954		2.890		-		2.890	0.000	61.464	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	Various	Various:Various	0.295	-		-		-		-	0.000	0.295	
Test and Evaluation	C/CPAF	Raytheon:Sudbury, MA	1.200	-		-		-		-	0.000	1.200	
Test and Evaluation	MIPR	AFOTEC:Peterson AFB, CO	0.330	-		-		-		-	0.000	0.330	
Test and Evaluation	MIPR	COMOPTEVFOR:Norfolk, VA	0.315	-		-		-		-	0.000	0.315	
Test and Evaluation	MIPR	JITC:Fort Huachuca, AZ	0.225	-		-		-		-	0.000	0.225	
Test and Evaluation	WR	NSWC DD:Dahlgren, VA	2.019	-		-		-		-	0.000	2.019	
Test and Evaluation	Allot	PEO SHIPS:Washington, DC	0.452	-		-		-		-	0.000	0.452	
Test and Evaluation	C/CPAF	TSC:Silver Spring, MD	0.422	-		-		-		-	0.000	0.422	
Test and Evaluation	C/CPAF	Riverside Research:New York, NY	2.071	1.979	Jan 2012	0.750	Oct 2012	-		0.750	0.000	4.800	
Test and Evaluation	WR	Military Sealift Command:Washington, DC	4.872	4.500	Oct 2011	2.616	Oct 2012	-		2.616	0.000	11.988	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305149N: <i>Cobra Judy</i>	PROJECT 4021: <i>CJR System Engineering</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	MIPR	Patrick AFB:PAFB, Florida	1.314	-		-		-		-	0.000	1.314	
Subtotal			13.515	6.479		3.366		-		3.366	0.000	23.360	

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	BAE Systems:Rockville, MD	12.233	-		-		-		-	0.000	12.233	
Program Management	C/CPFF	DTI:Arlington, VA	0.435	-		-		-		-	0.000	0.435	
Contractor Engineering	C/CPAF	BAE Systems:Rockville, MD	10.611	-		-		-		-	0.000	10.611	
Contractor Engineering	C/CPAF	Computer Science Corp:Falls Church, VA	3.255	-		-		-		-	0.000	3.255	
Contractor Engineering	C/CPAF	Systems Planning and Analysis:Alexandria, VA	1.900	-		-		-		-	0.000	1.900	
Contractor Engineering	Various	Various:Various	1.687	-		-		-		-	0.000	1.687	
Travel	Allot	PEO IWS2:Washington, DC	0.896	-		-		-		-	0.000	0.896	
Subtotal			31.017	-		-		-		-	0.000	31.017	

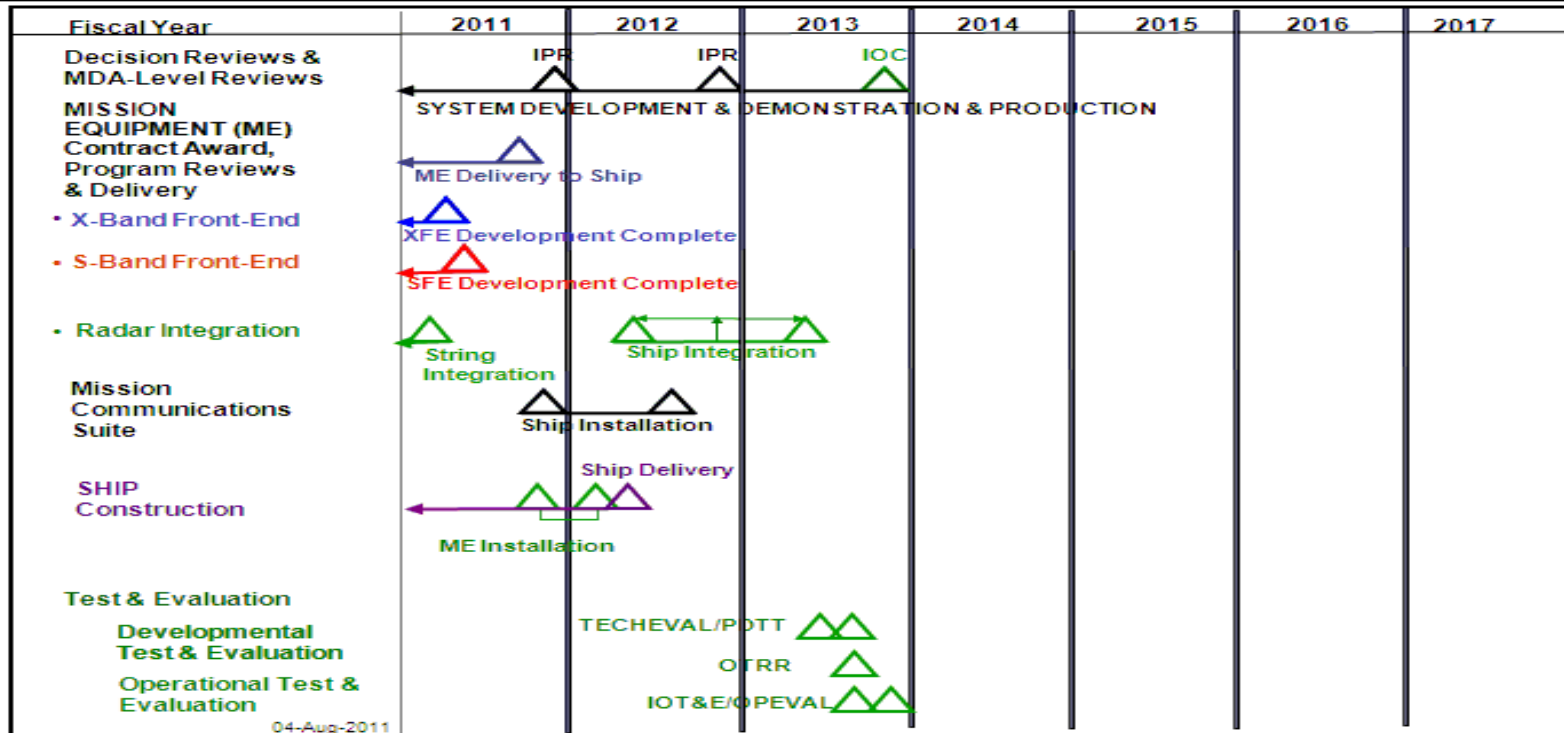
	Total Prior Years Cost	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		796.764	40.605	17.091	-	17.091	0.000	854.460

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305149N: <i>Cobra Judy</i>	PROJECT 4021: <i>CJR System Engineering</i>
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04-Aug-2011

CDR – Critical Design Review
 DT&E – Developmental Test and Evaluation
 GFE – Gov't Furnished Equipment
 I&T – Integration and Test
 IBR – Integrated Baseline Review
 IPR – Interim Program Review
 IOC – Initial Operational Capability

IOT&E – Initial Operational Test and Evaluation
 ME – Mission Equipment
 MS – Milestone
 OPEVAL – Operational Evaluation
 OTRR – Operational Test Readiness Review
 PDR – Preliminary Design Review

PDTT – Post Delivery Test and Trials
 SDR – System Design Review
 SFE – S-Band Radar Front End
 TECHEVAL – Technical Evaluation
 TIF – Test and Integration Facility
 XFE – X-Band Radar Front End

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305149N: <i>Cobra Judy</i>	PROJECT 4021: <i>CJR System Engineering</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 4021				
Decision Reviews & MDA-Level Reviews	1	2011	4	2013
Initial Operational Capability (IOC)	4	2013	4	2013
X- Band Development	1	2011	1	2011
S-Band Radar Development	1	2011	2	2011
Mission Equipment String Integration	1	2011	1	2011
ME Ship Integration	2	2012	2	2013
Ship Delivery	2	2012	2	2012
TECHEVAL/ Post Delivery Test & Trials	2	2013	3	2013
OTRR	3	2013	3	2013
IOT&E/OPEVAL	4	2013	4	2013

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305160N: <i>Navy Meteorological and Ocean Sensors-Space(METOC)</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	38.795	0.904	0.810	-	0.810	3.408	5.419	28.945	68.568	Continuing	Continuing
0524: <i>Navy METOC Support (SPACE)</i>	0.851	0.904	0.810	-	0.810	0.829	0.876	0.887	0.902	Continuing	Continuing
1452: <i>GEO SAT</i>	37.944	-	-	-	-	2.579	4.543	28.058	67.666	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element supports the Navy's requirements in meteorological and oceanographic (METOC) space-based remote sensors. These requirements include commitments to satellite, sensor, and operational demonstration/development activities as well as the transition to fleet applications associated with three satellite programs: 1) the joint Defense Meteorological Satellite Program (DMSP), 2) the jointly funded Coriolis satellite which includes Navy Satellite Based Wind Speed (WindSat) and Air Force Solar Mass Ejection Imager instruments, 3) the Geodetic/geophysical Satellite (GEOSAT) Follow-On 2 (GFO-2) altimetry satellite funded entirely by Navy.

The Navy METOC Space-Based Sensing Capabilities project provides for Navy participation in Navy/Air Force cooperative efforts leading to DMSP sensor development, and specifically participation in the calibration and validation of instruments and delivery of satellite products to the fleet. The passive microwave instruments carried on the DMSP satellites provide global and atmospheric data of direct operational relevance, including sea surface wind, sea ice, and precipitation. WindSat is a partnered program that meets multiple naval remote sensing requirements and provides a significant risk reduction for the Joint Polar Orbiting Satellite System (JPSS) satellites' Microwave Imaging Sensor instrument.

The GEOSAT Follow-On project, and GFO-2 program, will provide a polar-orbiting satellite that measures sea surface topography using a precise altimeter. Both the GEOSAT Follow-On and Navy METOC Support (Space) projects fulfill Navy's obligation to develop naval service-unique, mission critical space-based METOC technology.

Starting in FY12 the Navy has delayed all Geodetic/geophysical Satellite (GEOSAT) Follow-On 2 (GFO-2) altimetry satellite development efforts until FY 2014.

JUSTIFICATION FOR BUDGET ACTIVITY: BA-7: This program is funded under OPERATIONAL SYSTEMS DEVELOPMENT because it encompasses engineering and manufacturing development for upgrade of existing, operational systems.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305160N: <i>Navy Meteorological and Ocean Sensors-Space(METOC)</i>
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B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	63.878	0.904	0.822	-	0.822
Current President's Budget	38.795	0.904	0.810	-	0.810
Total Adjustments	-25.083	-	-0.012	-	-0.012
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-9.690	-			
• SBIR/STTR Transfer	-0.030	-			
• Program Adjustments	-	-	-0.001	-	-0.001
• Rate/Misc Adjustments	-	-	-0.011	-	-0.011
• Congressional Recision Adjustments	-15.038	-	-	-	-
• Congressional General Reductions Adjustments	-0.325	-	-	-	-

Change Summary Explanation

Schedule: The Navy has delayed all Geodetic/geophysical Satellite (GEOSAT) Follow-On 2 (GFO-2) altimetry satellite development efforts until FY 2014.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy								DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0305160N: <i>Navy Meteorological and Ocean Sensors-Space(METOC)</i>				PROJECT 0524: <i>Navy METOC Support (SPACE)</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
0524: <i>Navy METOC Support (SPACE)</i>	0.851	0.904	0.810	-	0.810	0.829	0.876	0.887	0.902	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Meteorology and Oceanography (METOC) Space-Based Sensing Capabilities project provides for the naval service's unique sensor development efforts Navy Satellite Based Wind Speed (WindSat) and Navy participation in the Defense Meteorological Satellite Program (DMSP) Special Sensor Microwave/Imager and Special Sensor Microwave Imager Sounder calibration/validation efforts in support of the fleet operational requirements. WindSat, an initiative begun in 1997, is a partnered program that meets multiple naval remote sensing requirements and provides a significant risk reduction for the Joint Polar Satellite System (JPSS) satellites' Conical Microwave Imaging Sensor instrument. The passive microwave instruments carried on DMSP and future JPSS satellites provide global oceanic and atmospheric data of direct operational relevance, including sea surface wind speed, sea ice, and precipitation.

The METOC Space-Based Sensing Capabilities project ensures the naval service's operational requirements are satisfied primarily through demonstration of technologies for inclusion on operational constellations such as DMSP, the JPSS and the National Oceanic and Atmospheric Administration's Geostationary Operational Environmental Satellites (GOES). These efforts fulfill naval service unique requirements that are not funded within the DMSP, JPSS or GOES programs, and are in accordance with current inter-agency agreements.

The primary focus of the FY 2013 request is begin assessment of other national, commercial, and foreign earth observing satellite system's sensor data for use in Navy Atmospheric and Oceanographic Prediction Models.

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

	FY 2011	FY 2012	FY 2013
Title: METOC Space-Based Sensing Capabilities	0.851	0.904	0.810
Articles:	0	0	0
FY 2011 Accomplishments:			
Continued performance assessments of microwave imagers (e.g.: Special Sensor Microwave Imager Sounder (SSMIS) / Special Sensor Microwave Imager (SSM/I) / Microwave Imager Sounder (MIS)) and continued to calibrate sensors and validate data and resolve anomalies. Continued limited ground control and operations of the Coriolis spacecraft and monitored the WindSat on-orbit payload.			
FY 2012 Plans:			
Conduct performance assessments, sensor calibrations and perform quality control on National Polar-orbiting Operational Environmental Satellite System Preparatory Project (NPP) and Defense Meteorological Satellite Program (DMSP) satellite sensor			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305160N: <i>Navy Meteorological and Ocean Sensors-Space(METOC)</i>	PROJECT 0524: <i>Navy METOC Support (SPACE)</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
suits. Continue limited ground control and operations of the Coriolis spacecraft and monitor the Navy Satellite Based Wind Speed (WindSat) on-orbit payload. FY 2013 Plans: Continue performance assessment on NPP and DMSP satellite sensor suits. Conduct assessment of planned Joint Polar Satellite System (JPSS) sensors for use in Navy Operational Environmental predictive models. Begin assessment of planned Defense Weather Satellite System (DWSS) program environmental satellite sensor capabilities. Begin assessment of other national, commercial, and foreign earth observing satellite system's sensor data for use in Navy Atmospheric and Oceanographic Prediction Models.			
Accomplishments/Planned Programs Subtotals	0.851	0.904	0.810

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

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• RD TEN/0603207N/2342: <i>METOC DATA ASSIMILATION AND MOD</i>	14.750	10.636	11.127	0.000	11.127	9.875	9.854	9.827	9.986	Continuing	Continuing

D. Acquisition Strategy
 Naval service unique, space based METOC requirements. Particular sensors or data sources with unique naval service mission needs are targeted to accelerate acquisition or ensure threshold accomplishment of Joint or converged national program plans. Navy Satellite Based Wind Speed provides risk reduction data and developmental technology that the Joint Polar Satellite System (JPSS) program will use in the development of the Conical Microwave Imager Sounder (CMIS). CMIS will collect global microwave radiometry and sounding data to produce microwave imagery and other meteorological and oceanographic data. CMIS can be viewed as the follow-on instrument to the Special Sensor Microwave (SSM) instruments Navy developed for the Defense Meteorological Satellite Program. These CMIS sensors will be acquired as part of the JPSS architecture which supports these Navy requirements in the future. Maintenance of rigorous sensor calibration and data validation for operational SSM instruments continues along with algorithm development in support of fleet applications. The Advanced Altimeter technologies will improve radar altimeter resolution and aerial coverage to support Navy requirements for sea surface topography measurement in the littorals.

E. Performance Metrics
 Goal: Provide precise and near real-time METOC forecasting to the warfighter using existing and future space-based satellite derived data, including ocean surface wind speed, rain rate, ice concentration, and soil moisture measurements.
 Metric: Provide precise ocean surface wind speed within plus or minus 2.0 meters per second, the rain over land and ocean rate within plus or minus 5.0 millimeters per hour, soil moisture measurements within plus or minus 10%; and sea ice concentrations within plus or minus 10%.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305160N: <i>Navy Meteorological and Ocean Sensors-Space(METOC)</i>	PROJECT 1452: <i>GEO SAT</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
1452: <i>GEO SAT</i>	37.944	-	-	-	-	2.579	4.543	28.058	67.666	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

This project provides a Polar-orbiting satellite (the Geodetic/geophysical Satellite (GEOSAT) Follow-On 2 (GFO-2)) that measures sea surface topography using a precise altimeter. Mission data will be collected by the Spacecraft Operations Center and passed to the Payload Operations Center, and Altimetry Data Fusion Center, which are co-located at the Naval Oceanographic Office, Stennis Space Center, MS. Mission data is used in global and regional scale ocean forecast models. GFO-2 will provide a capability for precise mesoscale (e.g., fronts and eddies) and basin-scale oceanography. This capability will support tactical anti-submarine warfare, mine warfare, naval special warfare mission planning, tactical decision aids, and sensor/weapon performance prediction. GFO-2 will also provide an undersea warfare battlespace characterization capability that supports submarine detectability, weapon settings, sound velocity profiles, tropical cyclone intensity, and track forecasts.

GFO-2 data will be made freely available to other agencies, such as the National Oceanic and Atmospheric Administration and the National Aeronautics and Space Administration, who value its input to studies involving global warming and climate change, including El Nino Southern Oscillation effects.

Ocean topography data was previously provided by GEOSAT from 1985 until the satellite failed in January 1990. The Geodetic/geophysical Satellite Follow-On satellite was launched in February 1998 and deorbited in November 2008. The GEOSAT GFO-2 will provide for the continuation of this capability.

The Navy has delayed all Geodetic/geophysical Satellite (GEOSAT) Follow-On 2 (GFO-2) altimetry satellite development efforts until FY 2014.

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

	FY 2011	FY 2012	FY 2013
Title: GEO SAT	37.944	-	-
Articles:	0		
FY 2011 Accomplishments: Navy is assessing current program and mitigation strategies.			
Accomplishments/Planned Programs Subtotals	37.944	-	-

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

N/A

D. Acquisition Strategy

Navy will revise Acquisition Strategy to support restart in FY14.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305160N: <i>Navy Meteorological and Ocean Sensors-Space(METOC)</i>	PROJECT 1452: <i>GEO SAT</i>

E. Performance Metrics

Goal: Provide METOC GEOSAT derived mission data to improve the accuracy of global and regional scale oceanographic forecast models.
Metric: Anti-Submarine Warfare capability is highly dependent on the operational environment. GEOSAT Follow-On 1 demonstrated that a space based altimeter provided the equivalent of approximately a 500-fold increase in available subsurface observations and a 10-fold increase in available surface observations, critical to characterization of the ocean environment and oceanographic modeling. War-gaming models show that this increased knowledge of the subsurface acoustic propagation resulting from one altimeter reduced the probability of losing a ship to subsurface attack from 80% to 20% for various scenarios.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305192N: <i>JT Military Intel Programs</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	4.412	4.099	8.617	-	8.617	3.782	3.860	3.928	3.994	Continuing	Continuing
2295: <i>JDISS/LOCE Integration</i>	4.412	4.099	8.617	-	8.617	3.782	3.860	3.928	3.994	Continuing	Continuing

A. Mission Description and Budget Item Justification

The details of this program element are classified CONFIDENTIAL and are submitted annually to Congress in the classified budget justification books.

B. Program Change Summary (\$ in Millions)

	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013 Base</u>	<u>FY 2013 OCO</u>	<u>FY 2013 Total</u>
Previous President's Budget	4.435	4.099	4.107	-	4.107
Current President's Budget	4.412	4.099	8.617	-	8.617
Total Adjustments	-0.023	-	4.510	-	4.510
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	-	-	0.589	-	0.589
• Rate/Misc Adjustments	-	-	3.921	-	3.921
• Congressional General Reductions Adjustments	-0.023	-	-	-	-

Change Summary Explanation

Technical: Not applicable.
 Schedule: Not applicable.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305192N: <i>JT Military Intel Programs</i>	PROJECT 2295: <i>JDISS/LOCE Integration</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2295: <i>JDISS/LOCE Integration</i>	4.412	4.099	8.617	-	8.617	3.782	3.860	3.928	3.994	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The details of this program element are classified CONFIDENTIAL and are submitted annually to Congress in the classified budget justification books.

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

	FY 2011	FY 2012	FY 2013
Title: JDISS/LOCE Integration	4.412	4.099	8.617
Articles:	0	0	0
FY 2011 Accomplishments: The details of this program element are classified CONFIDENTIAL and are submitted annually to Congress in the classified budget justification books.			
FY 2012 Plans: The details of this program element are classified CONFIDENTIAL and are submitted annually to Congress in the classified budget justification books.			
FY 2013 Plans: The details of this program element are classified CONFIDENTIAL and are submitted annually to Congress in the classified budget justification books.			
Accomplishments/Planned Programs Subtotals	4.412	4.099	8.617

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

N/A

D. Acquisition Strategy

The details of this program element are classified CONFIDENTIAL and are submitted annually to Congress in the classified budget justification books.

E. Performance Metrics

The details of this program element are classified CONFIDENTIAL and are submitted annually to Congress in the classified budget justification books.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305204N: <i>Tactical Unmanned Aer Vehicles</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	20.480	9.353	9.066	-	9.066	8.387	8.546	8.670	8.826	Continuing	Continuing
2478: <i>Tactical Control System</i>	10.612	9.353	9.066	-	9.066	8.387	8.546	8.670	8.826	Continuing	Continuing
2501: <i>Medium Endurance Marinized UAS Technology Demonstration</i>	9.868	-	-	-	-	-	-	-	-	0.000	9.868

A. Mission Description and Budget Item Justification

Tactical Unmanned Aerial Vehicle is a Joint Military Intelligence Program

This Program Element (PE) includes non-lethal joint tactical Unmanned Aerial Vehicle system support for DoD to provide the warfighters with the capability for day/night aerial Reconnaissance, Surveillance and Target Acquisition, intelligence, communications/data relay, and minefield detection in limited adverse weather. This PE includes the Tactical Control System (TCS) which provides a multi-level, scalable, and flexible control of the air vehicles and payloads, as well as direct receipt of unmanned aerial vehicles imagery.

B. Program Change Summary (\$ in Millions)	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013 Base</u>	<u>FY 2013 OCO</u>	<u>FY 2013 Total</u>
Previous President's Budget	35.212	9.353	9.072	-	9.072
Current President's Budget	20.480	9.353	9.066	-	9.066
Total Adjustments	-14.732	-	-0.006	-	-0.006
• Congressional General Reductions	-	-	-	-	-
• Congressional Directed Reductions	-	-	-	-	-
• Congressional Rescissions	-	-	-	-	-
• Congressional Adds	-	-	-	-	-
• Congressional Directed Transfers	-	-	-	-	-
• Reprogrammings	1.664	-	-	-	-
• SBIR/STTR Transfer	-	-	-	-	-
• Program Adjustments	-	-	-0.007	-	-0.007
• Rate/Misc Adjustments	-	-	0.001	-	0.001
• Congressional General Reductions Adjustments	-0.096	-	-	-	-
• Congressional Directed Reductions Adjustments	-16.300	-	-	-	-

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305204N: <i>Tactical Unmanned Aer Vehicles</i>
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Change Summary Explanation

Schedule:

2478- TCS

The schedule changes made are to aid in accelerating the fielding of the program. With a Joint Urgency of Needs Statement for the capability, the program will utilize a Rapid Deployment Capability instead of an Engineering Change Proposal to provide this quick reaction capability.

Updated Schedule to coincide with Vertical Take-off Unmanned Aerial Vehicle (VTUAV) schedule milestones.

Major Points:

- IOC moved from 1Q FY2012 to 3Q FY2012
- FRP moved from 2Q FY2015 to 4Q FY2012
- MRMUAS reviews moved from FY2013 and FY2016 to FY2011 and FY2012, respectively.
- Incorporated VTUAV Rapid Deployment Capability development efforts.
- Change MQ-8 ECP to MQ-8 RDC.
- Incorporated Maritime UAS reviews for Technical Information Management System.

2501 - Medium Endurance Marinized Unmanned Aerial System

Acquisition Milestone Schedule removed and is now reflected in the MRMUAS PE 0305237N exhibit.

Technical:

NONE

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305204N: <i>Tactical Unmanned Aer Vehicles</i>	PROJECT 2478: <i>Tactical Control System</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2478: <i>Tactical Control System</i>	10.612	9.353	9.066	-	9.066	8.387	8.546	8.670	8.826	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 supports the Tactical Control System (TCS), a standards-based system that provides interoperability and commonality for Command and Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance interfaces, and Command and Control of Naval Unmanned Aircraft Systems (UAS). Capability to provide Interoperability across the Naval UAS Family of Systems through use of TCS software operating on Ground Control Station hardware utilizing North Atlantic Treaty Organization (NATO) Standardization Agreements (STANAG)-4586 architecture communicating across a Tactical Common Data Link.

TCS provides a full range of scalable UAS capabilities from passive receipt of air vehicle and payload data to full air vehicle and payload command and control. TCS offers the war fighter a common core operating environment to simultaneously receive, process, and disseminate data from different UAS types for reconnaissance, surveillance, and combat assessment.

This program supports enhancements and updates to TCS in order to continue to meet supported air vehicle enhancements, incorporation of new technologies that will be used to enhance overall system performance, incorporate new payloads and payload capabilities (such as advanced sensors and weapons), incorporate Multi-Vehicle Control, incorporate NATO STANAG-4586 and Command, Control, Communications, Computers and Intelligence enhancements, and alignment with OSD direction for UAS control segments.

TCS software will be incorporated into the MQ-8 Vertical Take-off and Landing Tactical Unmanned Air Vehicle (VTUAV) system, and will reach Initial Operational Capability in conjunction with MQ-8. TCS software addresses MQ-8 requirements validated by the Joint Requirements Oversight Council in the VTUAV Capability Production Document (May 2007).

TCS maximizes the use of contractor and government off-the-shelf hardware and software whenever possible and incorporates software/hardware enhancements where appropriate to maintain growth potential and minimize hardware and operating system dependence. TCS software is interoperable, and is compliant with the OSD Command and Control, Communications, Intelligence Joint Technical Architecture, and Distributed Common Ground System standards, and NATO standards.

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

	FY 2011	FY 2012	FY 2013
Title: TCS Development and Integration	9.178	8.592	8.307
Articles:	0	0	0
FY 2011 Accomplishments:			
Continue TCS integration with MQ-8 development. Continue new TCS capabilities to support requirements for Littoral Combat Ship integration. Continue TCS NATO STANAG 4586 compliance. Continue TCS Command and Control, Communications,			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305204N: <i>Tactical Unmanned Aer Vehicles</i>	PROJECT 2478: <i>Tactical Control System</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) interface testing for MQ-8 systems. Continue hardware and operating system independence initiatives. Start preliminary Medium Range Maritime Unmanned Aerial System (MRMUAS) design. FY 2012 Plans: Continue Tactical Control System (TCS) integration with MQ-8 development. Continue new TCS capabilities to support requirements for Littoral Combat Ship (LCS) integration. Continue TCS North Atlantic Treaty Organization (NATO) Standardization Agreements (STANAG) 4586 compliance. Continue TCS C4ISR interface testing for MQ-8 systems. Continue hardware and operating system independence initiatives. Start modifications for Unmanned Aerial System (UAS) weapons control, radar SOF payloads, Navy payload integration, and MQ-8 Endurance Upgrade. Continue preliminary MRMUAS trade studies. FY 2013 Plans: Continue TCS integration with MQ-8 development and Rapid Deployment Capability efforts. Continue new TCS capabilities to support requirements for LCS Integration. Continue TCS NATO STANAG 4586 compliance. Continue TCS C4ISR interface integration & testing. Complete flight testing of hardware and operating system independence initiatives. Complete modifications for UAS weapons control, RADAR, SOF payloads, Navy payload integration, and MQ-8 Endurance Upgrade. Complete MRMUAS trade studies.				
Title: Technical and Engineering Services		1.434	0.761	0.759
		Articles: 0	0	0
FY 2011 Accomplishments: Continue government engineering support, contractor support, program support, and travel for the TCS program. FY 2012 Plans: Continue government engineering support, contractor support, program support, and travel for the TCS program. FY 2013 Plans: Continue government engineering support, contractor support, program support, and travel for the TCS program.				
Accomplishments/Planned Programs Subtotals		10.612	9.353	9.066
C. Other Program Funding Summary (\$ in Millions)				
N/A				

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305204N: <i>Tactical Unmanned Aer Vehicles</i>	PROJECT 2478: <i>Tactical Control System</i>

D. Acquisition Strategy

The TCS program is developing Government owned, non-proprietary software that supports multiple UAS control. The TCS program continues to focus on Navy requirements and standards based on interoperability. Government-owned TCS software development toolkit is available to all UAS developers and manufacturers that allows a low-cost integration into the open architecture non-proprietary TCS system.

E. Performance Metrics

Successfully achieve Initial Operational Capability. Successfully complete Coastal Battlefield Reconnaissance and Analysis Integration. Support MQ-8 Endurance Upgrade Rapid Deployment Capability integrated test. Successfully complete Littoral Combat Ship Integration. Successfully complete Operational Test. Successfully complete MQ-8 Weapons Rapid Deployment Capability. Successfully complete payloads and Radar RDCs.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305204N: <i>Tactical Unmanned Aer Vehicles</i>	PROJECT 2478: <i>Tactical Control System</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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 Software Development	C/CPAF	Raytheon:Falls Church,VA	129.530	8.077	Nov 2011	8.307	Nov 2012	-		8.307	0.000	145.914	145.914
Award Fees	C/CPAF	Raytheon:Falls Church,VA	10.106	0.515	Jul 2012	-		-		-	0.000	10.621	10.621
Subtotal			139.636	8.592		8.307		-		8.307	0.000	156.535	156.535

Remarks
Awarded 85.6% of award fees in past award fee periods.

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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			
Development Test and Evaluation	WR	Various:Various	1.194	0.030	Nov 2011	0.026	Nov 2012	-		0.026	Continuing	Continuing	Continuing
Subtotal			1.194	0.030		0.026		-		0.026			

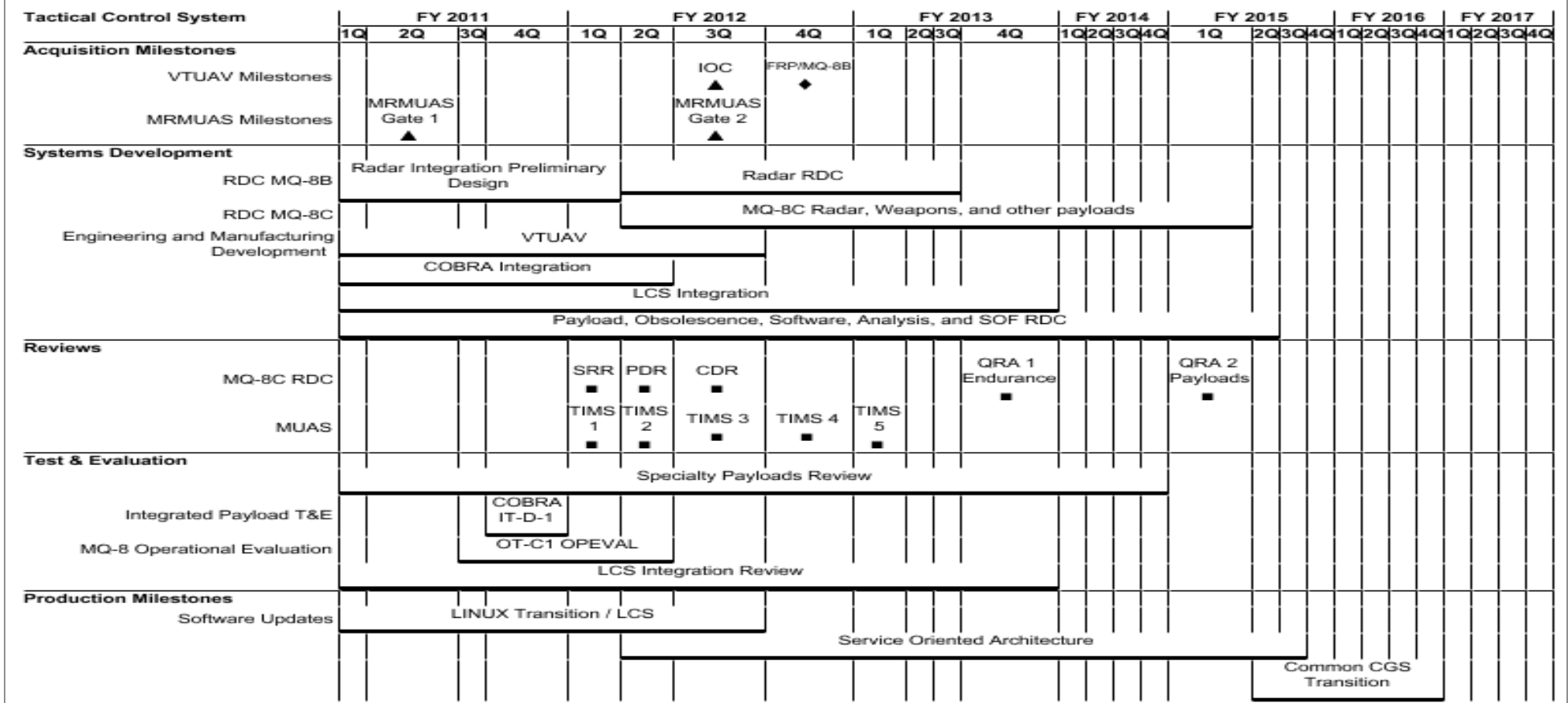
Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Contractor Engineering Support	Various	Various:Various	2.683	0.213	Nov 2011	0.213	Nov 2012	-		0.213	Continuing	Continuing	Continuing
Government Engineering Support	WR	Various:Various	8.947	0.255	Nov 2011	0.257	Nov 2012	-		0.257	Continuing	Continuing	Continuing
Program Management Support	Various	Various:Various	3.806	0.218	Nov 2011	0.218	Nov 2012	-		0.218	Continuing	Continuing	Continuing
Travel	WR	NAVAIR:PAXRV, MD	0.233	0.045	Oct 2011	0.045	Nov 2012	-		0.045	Continuing	Continuing	Continuing
Subtotal			15.669	0.731		0.733		-		0.733			

Remarks
Travel Contract Type is TO.

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305204N: <i>Tactical Unmanned Aer Vehicles</i>	PROJECT 2478: <i>Tactical Control System</i>
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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305204N: <i>Tactical Unmanned Aer Vehicles</i>	PROJECT 2478: <i>Tactical Control System</i>
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>Tactical Control System</i>				
Acquisition Milestones: VTUAV Milestones: Initial Operational Capability (IOC)	3	2012	3	2012
Acquisition Milestones: VTUAV Milestones: Full Rate Production	4	2012	4	2012
Acquisition Milestones: MRMUAS Milestones: MRMUAS Gate 1	2	2011	2	2011
Acquisition Milestones: MRMUAS Milestones: MRMUAS Gate 2	3	2012	3	2012
Systems Development: RDC MQ-8B: Radar RDC	2	2012	3	2013
Systems Development: RDC MQ-8B: Radar Integration Preliminary Design	1	2011	1	2012
Systems Development: RDC MQ-8C: MQ-8C Radar, Weapons, and other payloads	2	2012	1	2015
Systems Development: Engineering and Manufacturing Development: VTUAV	1	2011	3	2012
Systems Development: Engineering and Manufacturing Development: Coastal Battlefield Reconnaissance and Analysis Integration	1	2011	2	2012
Systems Development: Engineering and Manufacturing Development: Littoral Combat Ship Integration	1	2011	4	2013
Systems Development: Engineering and Manufacturing Development: Payload, Obsolescence, Software, Analysis, and SOF RDC	1	2011	2	2015
Reviews: MQ-8C RDC: System Readiness Review	1	2012	1	2012
Reviews: MQ-8C RDC: Preliminary Design Review	2	2012	2	2012
Reviews: MQ-8C RDC: Critical Design Review	3	2012	3	2012
Reviews: MQ-8C RDC: Quick Reaction Assessment 1 Endurance MQ-8C	4	2013	4	2013
Reviews: MQ-8C RDC: Quick Reaction Assessment 2 MQ-8C radar, weapons, and payloads	1	2015	1	2015
Reviews: MUAS: Technical Information Management System 1	1	2012	1	2012
Reviews: MUAS: Technical Information Management System 2	2	2012	2	2012

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305204N: <i>Tactical Unmanned Aer Vehicles</i>	PROJECT 2478: <i>Tactical Control System</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Reviews: MUAS: Technical Information Management System 3	3	2012	3	2012
Reviews: MUAS: Technical Information Management System 4	4	2012	4	2012
Reviews: MUAS: Technical Information Management System 5	1	2013	1	2013
Test & Evaluation: Specialty Payloads Review	1	2011	4	2014
Test & Evaluation: Integrated Payload T&E: Coastal Battlefield Reconnaissance and Analysis IT-D-1	4	2011	4	2011
Test & Evaluation: MQ-8 Operational Evaluation: MQ-8 OT-C1	3	2011	2	2012
Test & Evaluation: MQ-8 Operational Evaluation: Littoral Combat Ship Integration Review	1	2011	4	2013
Production Milestones: Software Updates: TCS 3.0	1	2011	3	2012
Production Milestones: Software Updates: TCS 4.0	2	2012	3	2015
Production Milestones: Software Updates: TCS 5.0	2	2015	4	2016

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0305204N: <i>Tactical Unmanned Aer Vehicles</i>				PROJECT 2501: <i>Medium Endurance Marinized UAS Technology Demonstration</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2501: <i>Medium Endurance Marinized UAS Technology Demonstration</i>	9.868	-	-	-	-	-	-	-	-	0.000	9.868
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

A new start program for FY11.

A. Mission Description and Budget Item Justification

The Medium Endurance Marinized Unmanned Aircraft System (UAS) Technology Demonstration - This demonstration was going to evaluate medium endurance Vertical Take Off and Landing UAS at sea. On August 10, 2010 the CNO signed a Utilization Plan for FY11 Medium Endurance Maritime Unmanned Air System Demonstration funding in conjunction with the initiation of a new start Medium Range Maritime UAS (MRMUAS) follow-on program. MRMUAS will provide the long term capability for the ship based Beyond Line of Sight SOF and Navy Missions. MRMUAS is a potential joint program with the Army.

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

	FY 2011	FY 2012	FY 2013
Title: Hardware and System Development	7.768	-	-
Articles:	0		
FY 2011 Accomplishments: Commence planning and execution of an Analysis of Alternatives (AoA) for the MRMUAS program. Commence drafting of the MRMUAS Concept of Operations. Prepare and award up to five (5) studies and analysis contracts in support of MRMUAS concept refinement. Data received from these contracts will be used to support AoA analyses and drafting of initial Key Performance Parameters/Key System Attributes for the MRMUAS Capability Development Document.			
Title: Engineering and Technical Services	2.100	-	-
Articles:	0		
FY 2011 Accomplishments: Begin engineering management, program technical management, and management support. Begin preparation of Milestone A required documentation. Begin program office personnel travel and contract support services.			
Accomplishments/Planned Programs Subtotals	9.868	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305204N: <i>Tactical Unmanned Aer Vehicles</i>	PROJECT 2501: <i>Medium Endurance Marinized UAS Technology Demonstration</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• RDT&E, 0305237N: <i>Medium Range Maritime UAS</i>	0.000	15.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	15.000

D. Acquisition Strategy

Conduct full and open competition for up to five (5) Trade Studies and analysis contracts. Initiated industry trade studies and Analysis of Alternatives. Transition to Medium Range Maritime Unmanned Aerial System PE 0305237N.

E. Performance Metrics

Successfully complete trade studies and analysis.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305206N: <i>Airborne Reconnaissance Sys</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	49.945	20.000	-	-	-	-	-	-	-	0.000	69.945
9999: <i>Congressional Adds</i>	49.945	20.000	-	-	-	-	-	-	-	0.000	69.945

A. Mission Description and Budget Item Justification

Provides funds for the development of sensor systems to improve present airborne reconnaissance capabilities. These developments are driven by evolving collection requirements and technology advances. The developments allow for the necessary changes required to meet an integrated, objective airborne reconnaissance architecture as defined in the Integrated Airborne Reconnaissance Strategy (IARS) and amplified in the Airborne Reconnaissance Information Technical Architecture. The Advanced Sensors Development Program implements successful proof-of-concept efforts accomplished in the Advanced Technology Program, other Service/ Agency developments, and Congressionally-funded initiatives leading to producible sensor systems for airborne platforms. Upon successful sensor prototype demonstration, technology sensor developments are turned over to the Services for procurement and platform integration. This effort focuses on developments, which support sensor system interoperability and standardization of multi-Service and multi-platform applications. In addition, funds provide for the development/integration and operational assessment of components for the EP-3E and P-3 Special Projects Aircraft and follow-on candidate aircraft.

There are two primary objectives for the Advanced Technology funding: (1) to evaluate the utility and maturity of technology for airborne reconnaissance applications and (2) to reduce the risk of employing emerging technologies in system upgrades, new system acquisitions, or Advanced Concept Technology Demonstrations, by integrating and exercising them in developmental and operational tests. These technologies help satisfy the requirements of the objective architecture set forth in the IARS. These technology investments are also identified in the Airborne Reconnaissance Technology Program Plan, published in November 1994.

Exhibits reflect Congressional Adds currently being executed as follows:

FY11 Congressional Add of \$49.945 is for sensor improvements on the EP-3E with applications for the follow-on Family of System (FoS) sensors and platforms. The funds are responsible for the development, integration and test of FoS Signal Intelligence sensors, data links, data relays, and ground systems for incorporation on the FoS platforms and the development of Tasking, Collection, Processing, Exploitation and Dissemination operations.

FY12 Congressional Add of \$20.000 is for a Central Command (CENTCOM) and Navy resourced Limited Objective Experiment (LOE) for a Joint Combat Validation (JCV) to investigate the potential usefulness/requirement and demonstrate the mission utility (Multi-Intelligence, Intelligence, Surveillance and Reconnaissance, Light Weaponization) and cost effectiveness of a Turbo Prop aircraft to support both General Purpose Forces (GPF) and Special Operations (SPECOPS) in ongoing Operation Enduring Freedom (OEF) combat operations and other Expeditionary roles and missions far from conventional support infrastructure such as large concrete runways and fuel supplies.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305206N: <i>Airborne Reconnaissance Sys</i>
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B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	-	-	-	-	-
Current President's Budget	49.945	20.000	-	-	-
Total Adjustments	49.945	20.000	-	-	-
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	20.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Congressional General Reductions Adjustments	-0.255	-	-	-	-
• Congressional Add Adjustments	50.200	-	-	-	-

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

Project: 9999: *Congressional Adds*

 Congressional Add: *Advanced Signal Recognition - Cong*

 Congressional Add: *Combat Dragon II Demonstration (Cong)*

	FY 2011	FY 2012
	49.945	-
	-	20.000
Congressional Add Subtotals for Project: 9999	49.945	20.000
Congressional Add Totals for all Projects	49.945	20.000

Change Summary Explanation

Technical: Not applicable.

Schedule: Not Applicable.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY			R-1 ITEM NOMENCLATURE					PROJECT			
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>			PE 0305206N: <i>Airborne Reconnaissance Sys</i>					9999: <i>Congressional Adds</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
9999: <i>Congressional Adds</i>	49.945	20.000	-	-	-	-	-	-	-	0.000	69.945
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 2011	FY 2012
Congressional Add: Advanced Signal Recognition - Cong	49.945	-
FY 2011 Accomplishments: FY11 funded sensor improvements on the EP-3E with applications for the follow-on FoS sensors and platforms. The funds are responsible for the development, integration and test of FoS Signal Intelligence sensors, data links, data relays, and ground systems for incorporation on the FoS platforms and the development of TCPED operations.		
Congressional Add: Combat Dragon II Demonstration (Cong)	-	20.000
FY 2012 Plans: N/A		
Congressional Adds Subtotals	49.945	20.000

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

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• APN/0537: <i>EP-3E Series</i>	85.907	94.481	66.374	13.030	79.404	55.996	29.954	9.385	9.578	24.099	1,277.315
• APN/0567: <i>Special Projects Aircraft</i>	20.695	22.232	12.421	2.714	15.135	12.479	12.621	12.842	11.044	71.727	558.022

D. Acquisition Strategy

Not Required for Congressional Adds

E. Performance Metrics

Not required for Congressional Adds.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				PE 0305207N: <i>Manned Reconnaissance Sys</i>							
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	17.565	-	30.654	-	30.654	35.402	59.565	39.985	40.699	Continuing	Continuing
0117: <i>Reef Point</i>	17.565	-	12.462	-	12.462	11.910	12.389	12.541	12.768	Continuing	Continuing
3329: <i>Multi Intelligence Sensor Development</i>	-	-	18.192	-	18.192	23.492	47.176	27.444	27.931	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program is reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program Annual Report to Congress.

B. Program Change Summary (\$ in Millions)

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	19.263	-	30.682	-	30.682
Current President's Budget	17.565	-	30.654	-	30.654
Total Adjustments	-1.698	-	-0.028	-	-0.028
• Congressional General Reductions	-	-	-	-	-
• Congressional Directed Reductions	-	-	-	-	-
• Congressional Rescissions	-	-	-	-	-
• Congressional Adds	-	-	-	-	-
• Congressional Directed Transfers	-	-	-	-	-
• Reprogrammings	-1.600	-	-	-	-
• SBIR/STTR Transfer	-	-	-	-	-
• Program Adjustments	-	-	-0.018	-	-0.018
• Rate/Misc Adjustments	-	-	-0.010	-	-0.010
• Congressional General Reductions Adjustments	-0.098	-	-	-	-

Change Summary Explanation

Technical: Not applicable.
Schedule: Not applicable.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305207N: <i>Manned Reconnaissance Sys</i>	PROJECT 0117: <i>Reef Point</i>
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COST (\$ in Millions)	FY 2011		FY 2012		FY 2013		FY 2014		FY 2015		FY 2016		FY 2017		Cost To Complete	Total Cost
					Base	OCO	Total									
0117: <i>Reef Point</i>	17.565	-	12.462	-	12.462	11.910	12.389	12.541	12.768	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 is reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program Annual Report to Congress.

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

	FY 2011	FY 2012	FY 2013
Title: Reef Point	17.565	-	12.462
Articles:	0		0
Description: N/A			
FY 2011 Accomplishments: N/A			
FY 2013 Plans: N/A			
Accomplishments/Planned Programs Subtotals	17.565	-	12.462

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

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0305207N: <i>Manned Reconnaissance Sys</i>				PROJECT 3329: <i>Multi Intelligence Sensor Development</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
3329: <i>Multi Intelligence Sensor Development</i>	-	-	18.192	-	18.192	23.492	47.176	27.444	27.931	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 is reported in accordance with Title 10, United States Code, Section 119(a)(1) in the Special Access Program Annual Report to Congress.

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

	FY 2011	FY 2012	FY 2013
Title: Multi Intelligence Sensor Development	-	-	18.192
Articles:			0
FY 2013 Plans: N/A			
Accomplishments/Planned Programs Subtotals	-	-	18.192

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

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY			R-1 ITEM NOMENCLATURE								
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>			PE 0305208M: (U) <i>Distributed Common Ground/Surface Systems</i>								
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	8.334	23.785	25.917	-	25.917	15.559	13.490	2.850	2.929	Continuing	Continuing
2268: <i>Distributed Common Ground System (DCGS-MC)</i>	8.334	23.785	25.917	-	25.917	15.559	13.490	2.850	2.929	Continuing	Continuing

Note

Topographic Production Capability(TPC),and Tactical Exploitation Group(TEG) have merged into DCGS-MC. Funding for these efforts under PE 0206625M has been realigned to DCGS-MC PE 0305208M effective FY 2011.

A. Mission Description and Budget Item Justification

DCGS-MC, in compliance with the Department of Defense DCGS Family of Systems (FOS) concept, is a service-level effort to migrate select USMC Intelligence, Surveillance and Reconnaissance (ISR) processing and exploitation capabilities into a single, integrated, net-centric baseline that will be interoperable with other services and agencies.

Multiple functional capability sets will be configured to support Marine intelligence analysts across the MAGTF. The goal of DCGS-MC is to make external and internal ISR data more visible, accessible, and understandable.

B. Program Change Summary (\$ in Millions)

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	8.377	23.785	26.847	-	26.847
Current President's Budget	8.334	23.785	25.917	-	25.917
Total Adjustments	-0.043	-	-0.930	-	-0.930
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	-	-	-0.930	-	-0.930
• Rate/Misc Adjustments	-	-	-	-	-
• Congressional General Reductions Adjustments	-0.043	-	-	-	-

Change Summary Explanation

FY13 decreased \$0.9M in RD TEN funding for hardware design, development and testing.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0305208M: <i>(U)Distributed Common Ground/Surface Systems</i>				PROJECT 2268: <i>Distributed Common Ground System (DCGS-MC)</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2268: <i>Distributed Common Ground System (DCGS-MC)</i>	8.334	23.785	25.917	-	25.917	15.559	13.490	2.850	2.929	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

Topographic Production Capability (TPC) and Tactical Exploitation Group (TEG) have merged into DCGS-MC. Funding for these efforts under PE 0206625M has been realigned to DCGS-MC PE 0305208M effective FY 2011.

A. Mission Description and Budget Item Justification

Distributed Common Ground System-Marine Corps DCGS-MC, in compliance with the Department of Defense DCGS Family of Systems concept, is a Service-level effort to migrate select USMC Intelligence, Surveillance and Reconnaissance (ISR) processing and exploitation capabilities into a single, integrated, net-centric baseline that will be interoperable with other Services and Agencies.

Multiple functional capability sets will be configured to support Marine intelligence analysts across the Marine Air-Ground Task Force (MAGTF). The goal of DCGS-MC is to make external and internal ISR data more visible, accessible, and understandable.

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

	FY 2011	FY 2012	FY 2013
Title: TESTING AND EVALUATION SUPPORT	1.082	2.344	2.416
Articles:	0	0	0
FY 2011 Accomplishments: Matured the Test and Evaluation Master Plan and resource requirements in support of the Milestone B, Engineering & Manufacturing Development phase. Conducted development and integration testing on the initial DCGS-MC Squadron Expeditionary Exploitation Suite capabilities and Portal and Data Exploitation Capability.			
FY 2012 Plans: Conduct Developmental Testing and a Technology Readiness Review in support of the Increment I DCGS-MC functionality. Conduct Developmental Testing, OUSD-I Sponsored, System Demonstration/Exercise Participation (ISR related spiral events) and Rapid Technology Insertion opportunities in support of the Increment II DCGS-MC functionality.			
FY 2013 Plans: Conduct Developmental and Operational Testing and a Technology Readiness Review in support of the Increment I DCGS-MC functionality. Conduct Developmental Testing, OUSD-I Sponsored, System Demonstration/Exercise Participation (ISR related spiral events) and Rapid Technology Insertion opportunities in support of the Increment II DCGS-MC functionality.			
Title: RESEARCH AND DEVELOPMENT EFFORTS FOR INTEGRATION EFFORTS	5.363	7.450	8.323

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305208M: <i>(U)Distributed Common Ground/Surface Systems</i>	PROJECT 2268: <i>Distributed Common Ground System (DCGS-MC)</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
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Articles:	0	0	0
<i>FY 2011 Accomplishments:</i> Continued research and development efforts for integrating the DCGS Intelligence Analyst Semantic WIKI, DCGS-MC Common Data Link (CDL) alternatives, and Geospatial Services concepts. Conducted initial Rapid Technology Insertion research and development activities for the Squadron Expeditionary Exploitation Suite and Portal and Data Exploitation Capability.			
<i>FY 2012 Plans:</i> Conduct research and development efforts for Ozone Widget Framework, integrating Semantic WIKI enhancements, maturing Full Motion Video, Multi-level security Cross Domain Solutions and Ground Moving Target Indicator concepts. Continue the research and development activities surrounding requirements definition associated with DCGS-MC Increment II, the Intelligence Analyst System, Rapid Technology Insertion activities associated with Advanced Analytics, structured and non-structured data mining, Analytical WIKI enhancements, Multi-level security Cross Domain Solutions, Ground Moving Target Indicator, and integration opportunities associated with follow-on versions of the DCGS Integration Backbone (DIB).			
<i>FY 2013 Plans:</i> Continue research and development efforts for advanced analytics, structured and un-structured data mining, expand services and development associated with the Ozone Widget Framework, Cloud computing, and DI2E services implementation. Evolve Common Data Link Interface Box (CIB) investments, Common Data Link enhancements, WIKI enhancements, Full Motion Video, Multi-level security Cross Domain Solutions and Ground Moving Target Indicator implementation. Continue the research and development activities surrounding requirements definition associated with DCGS-MC Increment II, the Intelligence Analyst System, Rapid Technology Insertion activities associated with Cloud computing, enhancement surrounding structured and un-structured data mining, common hardware and software migration initiatives, Multi-level security Cross Domain Solutions expansion, and integration opportunities associated with follow-on versions of the DCGS Integration Backbone (DIB).			

Title: ENGINEERING AND TECHNICAL SERVICES	0.775	1.300	1.611
Articles:	0	0	0

FY 2011 Accomplishments:
Completed the initial design for the Squadron Expeditionary Exploitation Suite (SEES) and Portal and Data Exploitation Capability (P&DEC). Developed associated system design and technical documentation to support the integration and development, as approved by the DCGS-MC Rapid Technology Insertion (RTI) Governance Board. Conducted DCGS-MC System Requirements Review (SRR), System/Sub-System Specification (SSS) development, initiated requirements derivation and traceability processes. Conducted P&DEC RTI Integration Readiness Review and Test Readiness Review and associated Developmental Testing (DT).

FY 2012 Plans:

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305208M: <i>(U)Distributed Common Ground/Surface Systems</i>	PROJECT 2268: <i>Distributed Common Ground System (DCGS-MC)</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<p>Conduct DCGS-MC Increment I System Functional Review (SFR), Preliminary Design Review (PDR), and Critical Design Review (CDR). Conduct requirements analysis and review for the Increment II capability, integrating All Source capabilities into the DCGS-MC baseline. Identify and process required Engineering Changes, due to emergent requirements and continuous security vulnerabilities to the DCGS-MC Increment I Baseline.</p> <p>FY 2013 Plans: Conduct System requirements analysis and review for the second increment of DCGS-MC, integrating All Source capabilities into Program Baseline. Conduct DCGS-MC System Requirements Review (SRR), System/Sub-System Specification (SSS) development and requirements derivation and traceability processes for the Increment II, All Source capability. Identify and process the required Engineering Changes, due to emergent requirements and security vulnerabilities to the DCGS-MC Increment I Baseline.</p>				
<p>Title: DESIGN AND DEVELOPMENT OF HARDWARE AND ENTERPRISE SERVICES</p> <p align="right">Articles:</p> <p>FY 2011 Accomplishments: Designed and developed the hardware and Enterprise services associated with DCGS-MC Rapid Technology Insertion (RTI) initiatives for the Squadron Expeditionary Exploitation Suite (SEES) and Portal and Data Exploitation Capability (P&DEC). Designed the initial Enterprise Services architecture to support the re-use of legacy "GEOINT" systems, TEG and TPC, through the implementation of Enterprise Resource Interface adapters.</p> <p>FY 2012 Plans: Implement initial design and development concepts for DCGS-MC Increment I and begin initial design planning for Increment II "All-Source" capabilities into the DCGS-MC program baseline. Prepare for Increment I System Functional Review (SFR), Preliminary Design Review (PDR) and Critical Design Review (CDR). Prepare for DCGS-MC Increment II Systems Requirements Review (SRR) and Systems Functional Review (SFR). Continue to develop and evaluate Rapid Technology Insertion (RTI) prototype opportunities for migration into the DCGS-MC baseline using the DCGS Integration Backbone (DIB). Fund DCGS Management Office for continued DIB upgrades and Enterprise technology migration analysis.</p> <p>FY 2013 Plans: Conduct DCGS-MC Increment I system design and optimization efforts to support the migration of legacy "GEOINT" systems to a common hardware and software baseline. Implement initial design and planning activities for migrating the Intelligence Analysis System (IAS), All-Source capabilities for Increment II into the DCGS-MC program baseline. Prepare for DCGS-MC Increment II Preliminary Design Review (PDR) and Critical Design Review (CDR). Continue to develop and evaluate Rapid Technology</p>		1.114 0	12.691 0	13.567 0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305208M: <i>(U)Distributed Common Ground/Surface Systems</i>	PROJECT 2268: <i>Distributed Common Ground System (DCGS-MC)</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Insertion (RTI) prototype opportunities for migration into the DCGS baseline using the DCGS Integration Backbone (DIB). Fund DCGS Management Office for continued DIB upgrades and Enterprise technology migration analysis.			
Accomplishments/Planned Programs Subtotals	8.334	23.785	25.917

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

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• PMC/4767: <i>Distributed Common Ground System (DCGS-MC)</i> .	21.763	10.789	18.291	0.000	18.291	13.318	20.897	8.705	7.608	Continuing	Continuing

D. Acquisition Strategy

The Acquisition Strategy shall follow a hybrid approach, recommended by the Analysis of Alternatives (AoA), consisting of a viable mix of alternatives that allows flexibility, agility and rapid fielding of new capabilities and will be matured prior to the first MS B to reflect results of the Capability Development Document (CDD), Technology Development Strategy (TDS), and the updated Life Cycle Cost Estimate (LCCE). An Evolutionary Acquisition approach will be supported by Government Labs for the development of DCGS-MC in order to maintain maximum programmatic agility while reducing cost. Capabilities will be delivered via clearly defined and militarily useful increments.

The specific content of each increment will be determined by an integrated assessment of user needs, technology readiness, risk mitigation, and affordability. Currently, two increments are envisioned with increment I focusing on Geospatial Intelligence incorporating the functions of TEG and TPC and increment II on All Source Intelligence.

E. Performance Metrics

Milestone reviews.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305208M: <i>(U)Distributed Common Ground/Surface Systems</i>	PROJECT 2268: <i>Distributed Common Ground System (DCGS-MC)</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
DCGS	WR	Naval Research Lab:Washington, DC	1.114	1.057	Nov 2011	3.000	Nov 2012	-		3.000	Continuing	Continuing	Continuing
DCGS	WR	SPAWAR:Charleston, SC	-	11.634	Dec 2011	10.567	Mar 2013	-		10.567	0.000	22.201	
Subtotal			1.114	12.691		13.567		-		13.567			

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
DCGS	C/CPFF	NSMA:Stafford, Virginia	5.363	7.450	Nov 2011	3.323	Nov 2012	-		3.323	0.000	16.136	
DCGS	C/FFP	CEOSS:Stafford, Virginia	-	-		5.000	Feb 2013	-		5.000	0.000	5.000	
DCGS	WR	NSWC:Dahlgren, VA	0.150	0.300	Oct 2011	0.700	Oct 2012	-		0.700	0.000	1.150	
DCGS	WR	NRL:Washington, DC	0.625	1.000	Jan 2012	0.911	Dec 2012	-		0.911	0.000	2.536	
Subtotal			6.138	8.750		9.934		-		9.934	0.000	24.822	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
DCGS	C/CPFF	MCOTEA:QUANTICO, VA	1.082	2.120	Dec 2011	2.174	Dec 2012	-		2.174	0.000	5.376	
DCGS	C/CPFF	JITC HUACHUCA:SIERRA VISTA, AZ	-	0.224	Nov 2011	0.242	Nov 2012	-		0.242	0.000	0.466	
Subtotal			1.082	2.344		2.416		-		2.416	0.000	5.842	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy							DATE: February 2012				
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>			R-1 ITEM NOMENCLATURE PE 0305208M: <i>(U)Distributed Common Ground/Surface Systems</i>			PROJECT 2268: <i>Distributed Common Ground System (DCGS-MC)</i>					
	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	8.334	23.785		25.917		-		25.917			

Remarks

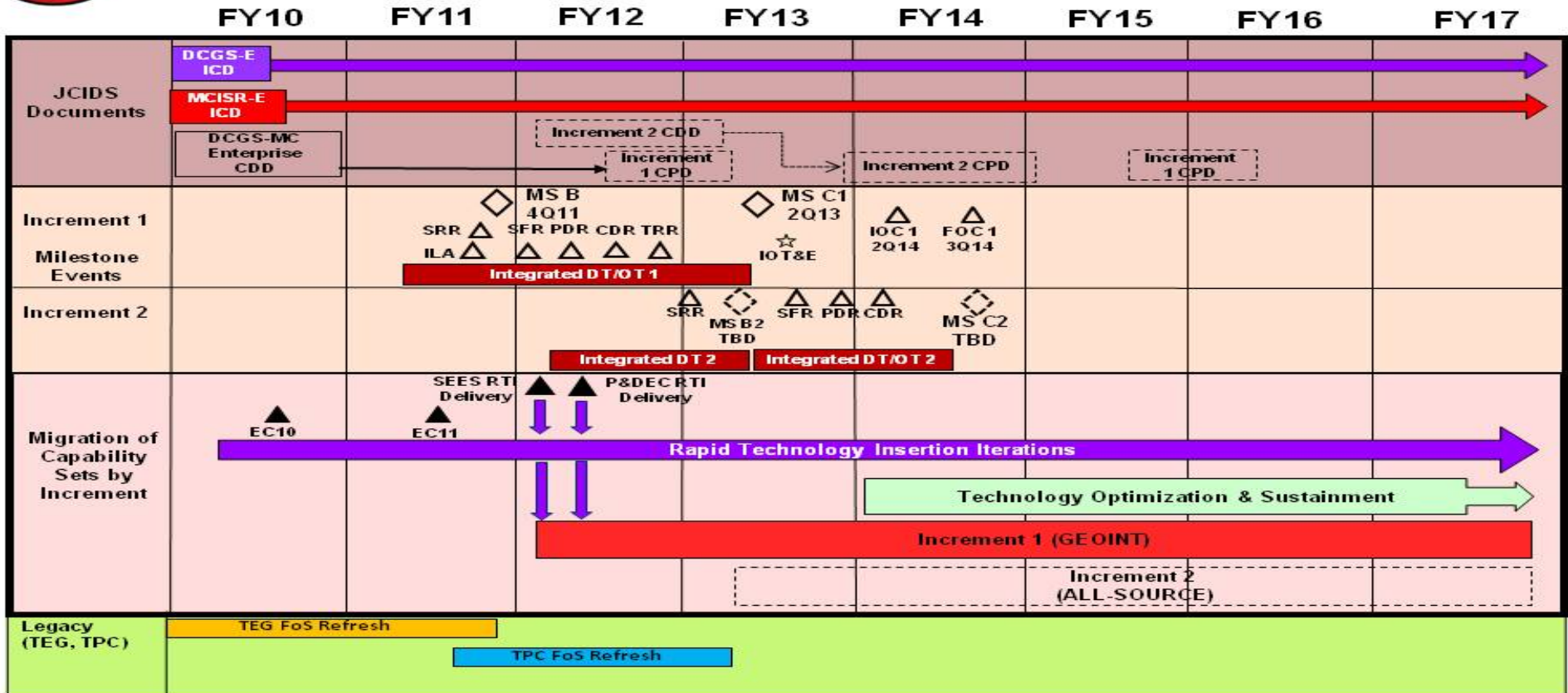
APPROPRIATION/BUDGET ACTIVITY
 1319: Research, Development, Test & Evaluation, Navy
 BA 7: Operational Systems Development

R-1 ITEM NOMENCLATURE
 PE 0305208M: (U)Distributed Common
 Ground/Surface Systems

PROJECT
 2268: Distributed Common Ground System
 (DCGS-MC)



DCGS-MC Schedule



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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305208M: <i>(U)Distributed Common Ground/Surface Systems</i>	PROJECT 2268: <i>Distributed Common Ground System (DCGS-MC)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2268				
DCGS INCR 1 SRR	4	2011	4	2011
DCGS INCR 1 SFR	1	2012	1	2012
DCGS INCR 1 PDR	2	2012	2	2012
DCGS INCR 1 CDR	3	2012	3	2012
DCGS INCR 1 IOT&E	3	2013	3	2013
DCGS INCR 1 MS C	2	2013	2	2013
DCGS INCR 1 IOC	2	2014	2	2014
DCGS INCR 1 FOC	3	2014	3	2014
DCGS INCR 2 SRR	1	2013	1	2013
DCGS INCR 2 SFR	3	2013	3	2013
DCGS INCR 2 PDR	4	2013	4	2013
DCGS INCR 2 MS B	2	2013	2	2013

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				PE 0305208N: <i>Distributed Common Ground Sys</i>							
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	16.549	25.453	14.676	-	14.676	20.020	26.708	32.785	33.342	Continuing	Continuing
2174: <i>Distributed Common Ground System-Navy (DCGS-N)</i>	16.549	25.453	14.676	-	14.676	20.020	26.708	32.785	33.342	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Distributed Common Ground System - Navy (DCGS-N) is the Navy's portion of the Under Secretary of Defense, Intelligence (USD (I)) DCGS-N Family of Systems (FoS). The Department of Defense (DoD) has defined a DCGS architecture that will be verifiably compatible and interoperable across all of the Services' Intelligence, Surveillance and Reconnaissance (ISR) systems and operations. DCGS accesses and ingests data from space borne, airborne, subsurface, and surface ISR collection assets, intelligence databases and intelligence producers. This collected data is shared across a Joint enterprise using the DCGS Integration Backbone (DIB) and in time, the Defense Intelligence Information Enterprise (DI2E) to enhance access and sharing of ISR information across Joint forces through the use of common enterprise standards and services. DCGS FoS supports Joint Task Force (JTF)-level and below combat operations with critical intelligence for battle management and information dominance across the full spectrum of operations, including peace, conflict, war, and Overseas Contingency Operations (OCO). DCGS is a cooperative effort between the services, agencies, and DoD to provide systems capable of receiving, processing, exploiting, and disseminating data from airborne and national reconnaissance platforms. DCGS-N core components include the Analyst Work Station from the Global Command and Control System (GCCS) - Integrated Imagery and Intelligence (I3), Generic Area Limitation Environment (GALE) Lite Signal Intelligence (SIGINT), Common Geo-positioning Services (CGS), Image Product Library (IPL), Modernized Integrated Database (MIDB), Joint Concentrator Architecture (JCA) and Track Management Services.

The DCGS-N system represents the integration of: 1) The processing and exploitation of tactical and Imagery Intelligence (IMINT) and Signals Intelligence (SIGINT); 2) Precision target geopositioning, mensuration, and imagery dissemination capabilities; 3) Selected national IMINT requirements and processing capabilities from the National Geospatial-Intelligence Agency (NGA); and 4) Sharing of Intelligence, Surveillance, Reconnaissance and Targeting and Command and Control information via DIB, DI2E, and Net-Centric Enterprise Services (NCES) standards with a wide range of customers (e.g., Global Command and Control System - Maritime (GCCS-M)), Joint Mission Planning System (JMPS), and many others).

The DCGS-N Enterprise Node (DEN), which incorporates DIB and DI2E standards, facilitates interoperability and data sharing among the DCGS FoS. DCGS-N will stay abreast of evolving requirements and ensure compliance with the DOD DCGS network architecture.

The Navy is focusing on establishing an ISR Enterprise way ahead that will emphasize a reach back strategy with a focus on providing intelligence products to support deployed ship and shore operations. The Navy will also initiate migration to a Service Oriented Architecture (SOA) that requires the development, integration, and testing of ISR Enterprise capability (Maritime Operations Centers (MOC) to MOC to afloat), development and migration of ISR SOA applications, and development and integration to leverage the Consolidated Afloat Network and Enterprise Services (CANES) strategy for a Common Computing Environment (CCE). Additionally, DCGS-N will become the focal point for migration of Maritime Domain Awareness (MDA) fusion and analysis (MFAS) tool applications for the Navy.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305208N: <i>Distributed Common Ground Sys</i>
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The Navy's Integrated Imagery and Intelligence Applications (I3 Apps) are an integrated set of applications designed to support analyst workflows and tactical intelligence processing, providing a useful integration framework to ensure joint intelligence interoperability across the GCCS and DCGS enterprise. Development of I3 Apps includes end to end intelligence analysis applications that leverage the MIDB and integration with NGA-provided digital map and imagery systems. I3 imagery applications provide for archiving, viewing and measurement of still and video images. The Navy's I3 effort is part of the Military Intelligence Program (MIP), managed by the Secretary of Defense through the Under Secretary of Defense for Intelligence (USD(I)).

Joint Service Imagery Processing System - Navy (JSIPS-N) tech refresh and JSIPS-N Service Life Extension Program (JSLEP) upgrades provide shipboard digital imagery capability to receive, exploit, store, and disseminate imagery products based on national, theater, and tactical sensors. JSIPS-N service life extension is comprised of five subsystems: Joint Concentrator Architecture (JCA), Common Geo-positioning Service (CGS), Image Product Library (IPL), Imagery Exploitation Support System (IESS), and the Sharp Display System (SDS). JSIPS-N is the Navy's legacy imagery processing system. JSLEP will overcome JSIPS-N End-of-Life hardware challenges, software obsolescence, and improve systems reliability until DCGS-N fully replaces JSIPS-N ashore and afloat.

DCGS-N Increment 2 will improve DCGS-N Increment 1 through the integration of multi-INT fusion and analytical capabilities; provide Maritime Domain Awareness (MDA) capabilities; integrate Tasking, Collection, Processing, Exploitation, and Dissemination (TCPED) capabilities to improve the use and analysis of sensor and platform data; and share this information across commands, services, and agencies to promote shared situational awareness. DCGS-N Increment 2 consists of two releases. The first release provides an enhanced Navy ISR enterprise that converges and builds on the DCGS-N Increment 1 and Maritime Domain Awareness Enterprise Nodes; leverages the Defense Intelligence Information Enterprise (DI2E) framework; federates ISR and Tasking, Collection, Processing, Exploitation and Dissemination (TCPED) workflow and production improving throughput through automation; exploits new and evolving sensors; provides Multi-INT cross-queuing and provides modular tools accessible via a web browser. The second release enhances afloat ISR capabilities by providing a set of software centric tools hosted on the Consolidated Afloat Network and Enterprise Services (CANES) providing Multi-INT fusion and analysis, behavior prediction and intelligent knowledge management designed to operate in disconnected or denied comms environment.

The FY13, DCGS-N Increment 1 effort will focus on completing its Development Testing and Operational Assessment (DT/OA) in preparation for the DCGS-N Block 2 Limited Deployment Decision (LDD) and Follow-On Test and Evaluation (FOT&E). The JSIPS-N/JSLEP Legacy capability will continue to be replaced by DCGS-N Increment 1.

The FY13, DCGS-N Increment 2 effort begins with final preparation for a Build Decision at Milestone B (MS B). The Capability Development Document (CDD) is expected to complete Joint Requirements Oversight Council (JROC) review, the Service Cost Position (SCP) will be established and the independent cost estimate completed. DCGS-N Increment 2 will have a Build Decision/MS B review which will approve the release of the Engineering, Manufacturing, and Development (EMD) Request For Proposal (RFP) which will lead to a contract award in FY2014.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE				
1319: <i>Research, Development, Test & Evaluation, Navy</i>	PE 0305208N: <i>Distributed Common Ground Sys</i>				
BA 7: <i>Operational Systems Development</i>					

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	16.665	25.487	17.288	-	17.288
Current President's Budget	16.549	25.453	14.676	-	14.676
Total Adjustments	-0.116	-0.034	-2.612	-	-2.612
• Congressional General Reductions	-	-0.034			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	-	-	-2.600	-	-2.600
• Rate/Misc Adjustments	-	-	-0.012	-	-0.012
• Congressional General Reductions Adjustments	-0.116	-	-	-	-

Change Summary Explanation

Technical: Not applicable.

Schedule: The schedule has been revised to reflect the updated DCGS-N Increment 2 funding profile; resulting in a shift of Inc 2's Build Decision (BD) from 4QFY13 to 1QFY14 and any following Inc 2 milestones in FY14 - FY17 to reflect anticipated development, milestones, and fielding as identified under the tailored acquisition approach in accordance with the Department of Defense Instructions (DoDI 5000.02) Acquisition process.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0305208N: <i>Distributed Common Ground Sys</i>				PROJECT 2174: <i>Distributed Common Ground System-Navy (DCGS-N)</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2174: <i>Distributed Common Ground System-Navy (DCGS-N)</i>	16.549	25.453	14.676	-	14.676	20.020	26.708	32.785	33.342	Continuing	Continuing
Quantity of RDT&E Articles	0	2	0	0	0	0	0	0	0		

Note

Beginning in FY12, funding was realigned from Maritime Domain Awareness (MDA) PE 0604231N into DCGS-N PE 0305208N. Cost-To-Complete reflects DCGS-N Increment 2 only. DCGS-N Increment 1 funding is complete in FY14. DCGS-N Increment 2 is continuing as it currently is in pre-acquisition activities and a Life Cycle Cost Estimate (LCCE) is scheduled to complete in FY13.

A. Mission Description and Budget Item Justification

The Distributed Common Ground System - Navy (DCGS-N) is the Navy's portion of the Under Secretary of Defense, Intelligence (USD (I)) DCGS-N Family of Systems (FoS). The Department of Defense (DoD) has defined a DCGS architecture that will be verifiably compatible and interoperable across all of the Services' Intelligence, Surveillance and Reconnaissance (ISR) systems and operations. DCGS accesses and ingests data from space borne, airborne, subsurface, and surface ISR collection assets, intelligence databases and intelligence producers. This collected data is shared across a Joint enterprise using the DCGS Integration Backbone (DIB) and in time, the Defense Intelligence Information Enterprise (DI2E) to enhance access and sharing of ISR information across Joint forces through the use of common enterprise standards and services. DCGS FoS supports Joint Task Force (JTF)-level and below combat operations with critical intelligence for battle management and information dominance across the full spectrum of operations, including peace, conflict, war, and Overseas Contingency Operations (OCO). DCGS is a cooperative effort between the services, agencies, and DoD to provide systems capable of receiving, processing, exploiting, and disseminating data from airborne and national reconnaissance platforms. DCGS-N core components include the Analyst Work Station from the Global Command and Control System (GCCS) - Integrated Imagery and Intelligence (I3), Generic Area Limitation Environment (GALE) Lite Signal Intelligence (SIGINT), Common Geo-positioning Services (CGS), Image Product Library (IPL), Modernized Integrated Database (MIDB), Joint Concentrator Architecture (JCA) and Track Management Services.

The DCGS-N system represents the integration of: 1) The processing and exploitation of tactical and Imagery Intelligence (IMINT) and Signals Intelligence (SIGINT); 2) Precision target geopositioning, mensuration, and imagery dissemination capabilities; 3) Selected national IMINT requirements and processing capabilities from the National Geospatial-Intelligence Agency (NGA); and 4) Sharing of Intelligence, Surveillance, Reconnaissance and Targeting and Command and Control information via DIB, DI2E, and Net-Centric Enterprise Services (NCES) standards with a wide range of customers (e.g., Global Command and Control System - Maritime (GCCS-M)), Joint Mission Planning System (JMPS), and many others).

The DCGS-N Enterprise Node (DEN), which incorporates DCGS DIB and DI2E standards, facilitates interoperability and data sharing among the DCGS FoS. DCGS-N will stay abreast of evolving requirements and ensure compliance with the DOD DCGS network architecture.

The Navy is focusing on establishing an ISR Enterprise way ahead that will emphasize a reach back strategy with a focus on providing intelligence products to support deployed ship and shore operations. The Navy will also initiate migration to a Service Oriented Architecture (SOA) that requires the development, integration, and

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
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<p>testing of ISR Enterprise capability (Maritime Operations Centers (MOC) to MOC to afloat), development and migration of ISR SOA applications, and development and integration to leverage the CANES strategy for a Common Computing Environment (CCE). Additionally, DCGS-N will become the focal point for migration of Maritime Domain Awareness (MDA) fusion and analysis (MFAS) tool applications for the Navy.</p> <p>The Navy's Integrated Imagery and Intelligence Applications (I3 Apps) are an integrated set of applications designed to support analyst workflows and tactical intelligence processing, providing a useful integration framework to ensure joint intelligence interoperability across the GCCS and DCGS enterprise. Development of I3 Apps includes end to end intelligence analysis applications that leverage the MIDB and integration with NGA-provided digital map and imagery systems. I3 imagery applications provide for archiving, viewing and measurement of still and video images. The Navy's I3 effort is part of the Military Intelligence Program (MIP), managed by the Secretary of Defense through the Under Secretary of Defense for Intelligence (USD(I)).</p> <p>Joint Service Imagery Processing System - Navy (JSIPS-N) tech refresh and JSIPS-N Service Life Extension Program (JSLEP) upgrades provide shipboard digital imagery capability to receive, exploit, store, and disseminate imagery products based on national, theater, and tactical sensors. JSIPS-N service life extension is comprised of five subsystems: Joint Concentrator Architecture (JCA), Common Geo-positioning Service (CGS), Image Product Library (IPL), Imagery Exploitation Support System (IESS), and the Sharp Display System (SDS). JSIPS-N is the Navy's legacy imagery processing system. JSLEP will overcome JSIPS-N End-of-Life hardware challenges, software obsolescence, and improve systems reliability until DCGS-N fully replaces JSIPS-N ashore and afloat.</p> <p>DCGS-N Increment 2 will improve DCGS-N Increment 1 through the integration of multi-INT fusion and analytical capabilities; provide Maritime Domain Awareness (MDA) capabilities; integrate Tasking, Collection, Processing, Exploitation, and Dissemination (TCPED) capabilities to improve the use and analysis of sensor and platform data; and share this information across commands, services, and agencies to promote shared situational awareness. DCGS-N Increment 2 consists of two Releases. The first release provides an enhanced Navy ISR enterprise that converges and builds on the DCGS-N Increment 1 and Maritime Domain Awareness Enterprise Nodes; leverages the Defense Intelligence Information Enterprise (DI2E) framework; federates ISR and Tasking, Collection, Processing, Exploitation and Dissemination (TCPED) workflow and production improving throughput through automation; exploits new and evolving sensors; provides Multi-INT cross-queuing and provides modular tools accessible via a web browser. The second Release enhances afloat ISR capabilities by providing a set of software centric tools hosted on the Consolidated Afloat Network and Enterprise Services (CANES) providing Multi-INT fusion and analysis, behavior prediction and intelligent knowledge management designed to operate in disconnected or denied comms environment.</p> <p>The FY13, DCGS-N Increment 1 effort will focus on completing its Development Testing and Operational Assessment (DT/OA) in preparation for the DCGS-N Block 2 Limited Deployment Decision (LDD) and Follow-On Test and Evaluation (FOT&E). The JSIPS-N/JSLEP Legacy capability will continue to be replaced by DCGS-N Increment 1.</p> <p>The FY13, DCGS-N Increment 2 effort begins with final preparation for a Build Decision at MS B. The Capability Development Document (CDD) is expected to complete Joint Requirements Oversight Council (JROC) review, the Service Cost Position (SCP) will be established and the independent cost estimate completed. DCGS-N Increment 2 will have a Build Decision/MS B review which will approve the release of the Engineering, Manufacturing, and Development (EMD) Request For Proposal (RFP) which will lead to a contract award in FY2014.</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305208N: <i>Distributed Common Ground Sys</i>	PROJECT 2174: <i>Distributed Common Ground System-Navy (DCGS-N)</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
Title: DCGS-N Increment 1		14.784	15.022	7.200
Articles:		0	2	0
FY 2011 Accomplishments: Conducted System Integration Testing (SIT) and Developmental Test and Evaluation (DT&E) test events and Operational Test Readiness Review (OTRR) for the DCGS-N Increment 1 Block 1 Early Adopter Engineering Change Proposal (EA ECP) build. Began Increment 1 Block 2 design to incorporate collection management capabilities, enhanced Signals Intelligence (SIGINT), software upgrades for new Navy sensors, and Moving Target Indicator (MTI) processor integration. Successfully completed Block 2 System Readiness Review and System Functional Review. Began preparations for Preliminary Design Review. Began updating/developing the Block 2 Test and Evaluation Master Plan (TEMP) and commenced development of two Block 2 Engineering Development Models (EDM). DCGS-N Requirements Working Group (DRWG) efforts in FY11 included updating and socializing specific DCGS-N Block 1 & 2 capabilities in support of Capabilities Production Document (CPD) requirements. DCGS-N's RDTE focus for Integrated Imagery and Intelligence (I3) specific components was on migration to Common Computing Environment (CCE), Service Oriented Architecture (SOA), widget related efforts, DCGS-N Enterprise Services, and environment, including transition to Common PC Operating System Environment (COMPOSE) 4.X.				
FY 2012 Plans: Conduct Follow-On Test and Evaluation (FOT&E) on Increment 1 Block 1 EA ECP and develop associated software patch as required. Complete design, development, and begin developmental testing of Increment 1 Block 2. New capabilities to include collection management capabilities, continued integration of enhanced Signals Intelligence (SIGINT), software upgrades for new Navy sensors, and Moving Target Indicator (MTI) processor integration. Deliver two Engineering Development Models (EDM) for DCGS-N Increment 1 Block 2. DCGS-N's RDTE focus for I3 specific components is on migration to Consolidated Afloat Networks and Enterprise Services (CANES) updated CCE, SOA, widget related efforts, DCGS-N Enterprise Services, and environment, including transition to COMPOSE 4.X.				
FY 2013 Plans: Conduct Increment 1 Block 2 Development Test and Operational Assessment (DT/OA) in preparation for the Block 2 Limited Deployment Decision (LDD) followed by the Block 2 Follow-On Operational Test and Evaluation (FOT&E). Begin development of a software patch to the Block 2 baseline based on the results of Development Test/Operational Test (DT/OT). Block 2 statutory, regulatory, and acquisition requirements will be updated during FY13 in preparation for a Fielding Decision Review (FDR) in early FY14. DCGS-N's RDTE will also focus on migration to CANES, CCE, SOA, widget related efforts, and the emerging Defense Intelligence Information Enterprise (DI2E) architecture.				
Title: DCGS-N Increment 2		0.765	10.431	7.476
Articles:		0	0	0

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<p><i>FY 2011 Accomplishments:</i> Continued pre-acquisition activities such as: Material Development Decision (MDD), Analysis of Alternatives (AoA), Capability Development Document (CDD) development and initial cost analysis.</p> <p><i>FY 2012 Plans:</i> Complete an Analysis of Alternatives (AoA). Continue Capability Development Document (CDD), and conduct cost analysis based on AoA findings. Prepare for a program Build Decision (BD) for DCGS-N Increment 2. Begin Increment 2 Test and Evaluation Master Plan (TEMP), Cost Analysis Requirements Description (CARD), Information Support Plan (ISP), and Life Cycle Cost Estimate (LCCE) leading to a Service Cost Position (SCP). Conduct exploratory studies, system requirements analysis, design, technical studies and experiments designed to reduce identified risks associated with the recommended AoA solution and provide a seamless integration with the Defense Intelligence Information Enterprise (DI2E) framework.</p> <p><i>FY 2013 Plans:</i> Complete statutory, regulatory, and acquisition requirements with final preparation for a Build Decision at MS B. Complete Increment 2 Capability Development Description (CDD), Test and Evaluation Master Plan (TEMP), Cost Analysis Requirements Document (CARD), Information Support Plan (ISP), and Life Cycle Cost Estimate (LCCE) leading to a Service Cost Position (SCP). Release of the Increment 2 Request For Proposal (RFP).</p>				
<p><i>Title:</i> Common Security and Discovery Services Increment 1</p> <p align="right"><i>Articles:</i></p> <p><i>Description:</i> Effort to migrate to common security and discovery services within the DCGS programs via Net-Centric Enterprise Services (NCES) and the DCGS Integrated Backbone (DIB). This effort improves the coordination and the acceleration of the introduction of NCES and DIB services into the DCGS/Intelligence, Surveillance and Reconnaissance (ISR) enterprise. This funding provides minimal full-time staffing to support the execution of the project plan in accordance with Under Secretary of Defense, Intelligence (USD(I)) guidance.</p> <p><i>FY 2011 Accomplishments:</i> Completed participation in development and demonstration of NCES; Continued to follow Pilot Plan; integrated DCGS test bed capabilities into Project Plan.</p>		1.000 0	-	-
Accomplishments/Planned Programs Subtotals		16.549	25.453	14.676

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305208N: <i>Distributed Common Ground Sys</i>	PROJECT 2174: <i>Distributed Common Ground System-Navy (DCGS-N)</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• OPN 2914: <i>Distributed Common Ground System-Navy (DCGS-N)</i>	16.543	11.201	11.887	0.000	11.887	17.470	24.548	33.664	34.614	91.908	492.952

D. Acquisition Strategy

The Distributed Common Ground System - Navy (DCGS-N) program utilizes mature Commercial Off The Shelf (COTS) and Governmental Off The Shelf (GOTS) capabilities. The Navy adapts and integrates these capabilities and ensures interoperability with the DCGS Integration Backbone (DIB) standards. Integration of DCGS-N Increment 1 components has transitioned from Government-led to Industry-led based on the award of DCGS-N's Prime Mission Product (PMP) contract. The DCGS-N Increment 2 streamlined Information Technology (IT) acquisition strategy is based on an accelerated acquisition model as defined in the Department of Defense Instructions (DoDI 5000.02) tailoring restructuring. DCGS-N Increment 2 acquisition strategy calls for an accelerated approval for the Capabilities Development Document (CDD) to meet a Program Build Decision (BD) for DCGS-N Increment 2 Release 1. DCGS-N Increment 2 capabilities will be developed through an evolutionary process that calls for multiple releases. The first planned DCGS-N Increment 2 release establishes an ISR capability supporting the Tasking, Processing Exploitation Dissemination (TPED) needs of the Fleet. DCGS-N Increment 2 Release 2 provides Multi Intelligence (Multi-INT) ISR capabilities to Navy forces afloat and ashore Maritime Operation Centers (MOC) that capitalize on a robust ashore enterprise based on the Defense Intelligence Information Enterprise (DI2E).

E. Performance Metrics

DCGS-N Increment 1 Goal: Provide Fleet with additional capabilities and migration to the Navy's Common Computing Environment (CCE) / Afloat Core Services (ACS).
 DCGS-N Increment 1 Metric: Conduct Increment 1 Block 2 Development Test and Operational Assessment (DT/OA) in preparation for the Block 2 Limited Deployment Decision (LDD) followed by the Block 2 Follow-On Test and Evaluation (FOT&E).

DCGS-N Increment 2 Goal: Develop a Multi-INT ISR capability that supports afloat forces through a robust enterprise ISR capability supporting maritime needs for processing, exploitation, and dissemination.
 DCGS-N Increment 2 Metric: Successful completion of Build Decision and release of a DCGS-N Increment 2 Request For Proposal (RFP).

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305208N: <i>Distributed Common Ground Sys</i>	PROJECT 2174: <i>Distributed Common Ground System-Navy (DCGS-N)</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 (prior)	WR	SSC LANT:Charleston, SC	5.276	-		-		-		-	0.000	5.276	
Primary Hardware Development	C/CPFF	BAE:Rancho Bernardo, CA	2.331	0.500	Nov 2011	0.271	Nov 2012	-		0.271	Continuing	Continuing	Continuing
Systems Engineering (prior)	C/CPAF	Various:Various	8.753	-		-		-		-	0.000	8.753	
Systems Engineering (prior)	C/CPAF	JFCOMM:Norfolk, VA	5.634	-		-		-		-	0.000	5.634	
Systems Engineering	C/CPFF	BAE:Rancho Bernardo, CA	26.247	7.500	Nov 2011	3.316	Nov 2012	-		3.316	Continuing	Continuing	Continuing
Systems Engineering (prior)	C/CPAF	LMSI:Valley Forge, PA	4.432	-		-		-		-	0.000	4.432	
Systems Engineering	WR	SSC Lant:Charleston, SC	8.772	2.370	Oct 2011	1.108	Oct 2012	-		1.108	Continuing	Continuing	Continuing
Systems Engineering	C/CPFF	SETA SAIC:Columbia, MD	3.160	1.900	Nov 2011	1.428	Nov 2012	-		1.428	Continuing	Continuing	Continuing
Systems Engineering (prior)	Various	SAIC:Columbia, MD	4.804	-		-		-		-	0.000	4.804	
Systems Engineering	C/CPFF	L3:Chantilly, VA	4.170	0.566	Dec 2011	0.330	Dec 2012	-		0.330	Continuing	Continuing	Continuing
Licenses (prior)	C/CPAF	BAE, SSC Lant:Various	0.660	-		-		-		-	0.000	0.660	
Systems Engineering	WR	SSC PAC:San Diego, CA	0.840	1.200	Oct 2011	1.200	Oct 2012	-		1.200	Continuing	Continuing	Continuing
Licenses	WR	SSC LANT:Charleston, SC	0.075	0.080	Dec 2011	0.055	Dec 2012	-		0.055	Continuing	Continuing	Continuing
Systems Engineering	C/CPIF	Inc 2 (PMP):Unknown	-	-		-		-		-	Continuing	Continuing	Continuing
Subtotal			75.154	14.116		7.708		-		7.708			

Remarks
 Various represents several prior year contracts in support of product development, logistics, testing, systems engineering and program management. The majority of these contracts were Cost Plus Award Fee (CPAF) contract awards.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305208N: <i>Distributed Common Ground Sys</i>	PROJECT 2174: <i>Distributed Common Ground System-Navy (DCGS-N)</i>
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Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 (prior)	Various	Various:Various	4.136	-		-		-		-	0.000	4.136	
Software Development (prior)	C/CPAF	BAE, NG:Various	16.733	-		-		-		-	0.000	16.733	
Integrated Logistics Support (prior)	Various	L3, SAIC:Various	4.380	-		-		-		-	0.000	4.380	
Configuration Management (prior)	C/CPAF	L3:Chantilly, VA	2.353	-		-		-		-	0.000	2.353	
Technical Data (prior)	Various	L3, SSC CHAS:Various	0.577	-		-		-		-	0.000	0.577	
Development Support	C/CPFF	SETA SAIC:Columbia, MD	0.331	0.300	Nov 2011	0.203	Nov 2012	-		0.203	Continuing	Continuing	Continuing
Development Support	WR	SSC Lant:Charleston, SC	0.280	0.200	Oct 2011	0.136	Oct 2012	-		0.136	Continuing	Continuing	Continuing
Development Support	C/CPFF	Unknown:Unknown	-	2.900	Feb 2012	0.492	Nov 2012	-		0.492	Continuing	Continuing	Continuing
Software Development	C/CPFF	Northrop Grumman:Los Angeles, CA	0.949	0.950	Dec 2011	0.644	Dec 2012	-		0.644	Continuing	Continuing	Continuing
Software Development	C/CPFF	BAE:Rancho Bernardo, CA	0.334	0.400	Nov 2011	0.272	Nov 2012	-		0.272	Continuing	Continuing	Continuing
Integrated Logistics Support	C/CPFF	Unknown:Unknown	-	0.900	Feb 2012	0.339	Nov 2012	-		0.339	Continuing	Continuing	Continuing
Integrated Logistics Support	WR	SSC Lant:Charleston, SC	0.737	0.950	Oct 2011	0.644	Oct 2012	-		0.644	Continuing	Continuing	Continuing
Configuration Management	WR	SSC Lant:Charleston, SC	0.658	0.550	Oct 2011	0.373	Oct 2012	-		0.373	Continuing	Continuing	Continuing
Subtotal			31.468	7.150		3.103		-		3.103			

Remarks

Various represents several prior year contracts in support of product development, logistics, testing, systems engineering and program management. The majority of these contracts were Cost Plus Award Fee (CPAF) contract awards.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305208N: <i>Distributed Common Ground Sys</i>	PROJECT 2174: <i>Distributed Common Ground System-Navy (DCGS-N)</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 (prior)	Various	SAIC, L3, SSC LANT:Various	10.443	-		-		-		-	0.000	10.443	
Operational Test & Evaluation (prior)	Various	SAIC, NAWC, NGES, OPTEVFOR, NSWC Corona:Various	5.056	-		-		-		-	0.000	5.056	
Developmental Test & Evaluation	C/CPFF	BAE:Rancho Bernardo, CA	0.366	0.120	Nov 2011	0.081	Nov 2012	-		0.081	Continuing	Continuing	Continuing
Developmental Test & Evaluation (prior)	WR	SSC Lant:Charleston, SC	0.747	-		-		-		-	0.000	0.747	
Operational Test & Evaluation	WR	SSC Pac:San Diego, CA	0.118	0.120	Oct 2011	0.082	Oct 2012	-		0.082	Continuing	Continuing	Continuing
Operational Test & Evaluation	C/CPFF	BAE:Rancho Bernardo, CA	-	1.360	Nov 2011	1.524	Nov 2012	-		1.524	Continuing	Continuing	Continuing
Operational Test & Evaluation	WR	SSC Lant:Charleston, CA	-	0.120	Oct 2011	0.081	Oct 2012	-		0.081	Continuing	Continuing	Continuing
Operational Test & Evaluation	C/CPFF	COTF:Norfolk, VA	-	0.120	Oct 2011	0.082	Oct 2012	-		0.082	Continuing	Continuing	Continuing
Subtotal			16.730	1.840		1.850		-		1.850			

Remarks

Various represents several prior year contracts in support of product development, logistics, testing, systems engineering and program management. The majority of these contracts were Cost Plus Award Fee (CPAF) contract awards.

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 (prior)	C/CPAF	SAIC:Columbia, MD	1.316	-		-		-		-	0.000	1.316	
Travel	Allot	SPAWAR:San Diego, CA	0.659	0.060	Oct 2011	0.060	Oct 2012	-		0.060	Continuing	Continuing	Continuing
Government Engineering Support	WR	SSC Lant:Charleston, SC	1.284	0.200	Oct 2011	0.136	Oct 2012	-		0.136	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305208N: <i>Distributed Common Ground Sys</i>	PROJECT 2174: <i>Distributed Common Ground System-Navy (DCGS-N)</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	PSS BAH:San Diego, CA	0.248	1.023	Nov 2011	1.097	Nov 2012	-		1.097	Continuing	Continuing	Continuing
Program Management Support	WR	SSC Lant:Charleston, SC	0.339	0.839	Oct 2011	0.569	Oct 2012	-		0.569	Continuing	Continuing	Continuing
Program Management Support	WR	SSC Pac:San Diego, CA	0.205	0.225	Oct 2011	0.153	Oct 2012	-		0.153	Continuing	Continuing	Continuing
Subtotal			4.051	2.347		2.015		-		2.015			

Remarks
Various represents several prior year contracts in support of product development, logistics, testing, systems engineering and program management. The majority of these contracts were Cost Plus Award Fee (CPAF) contract awards.

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	127.403	25.453		14.676		-		14.676			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy

DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY

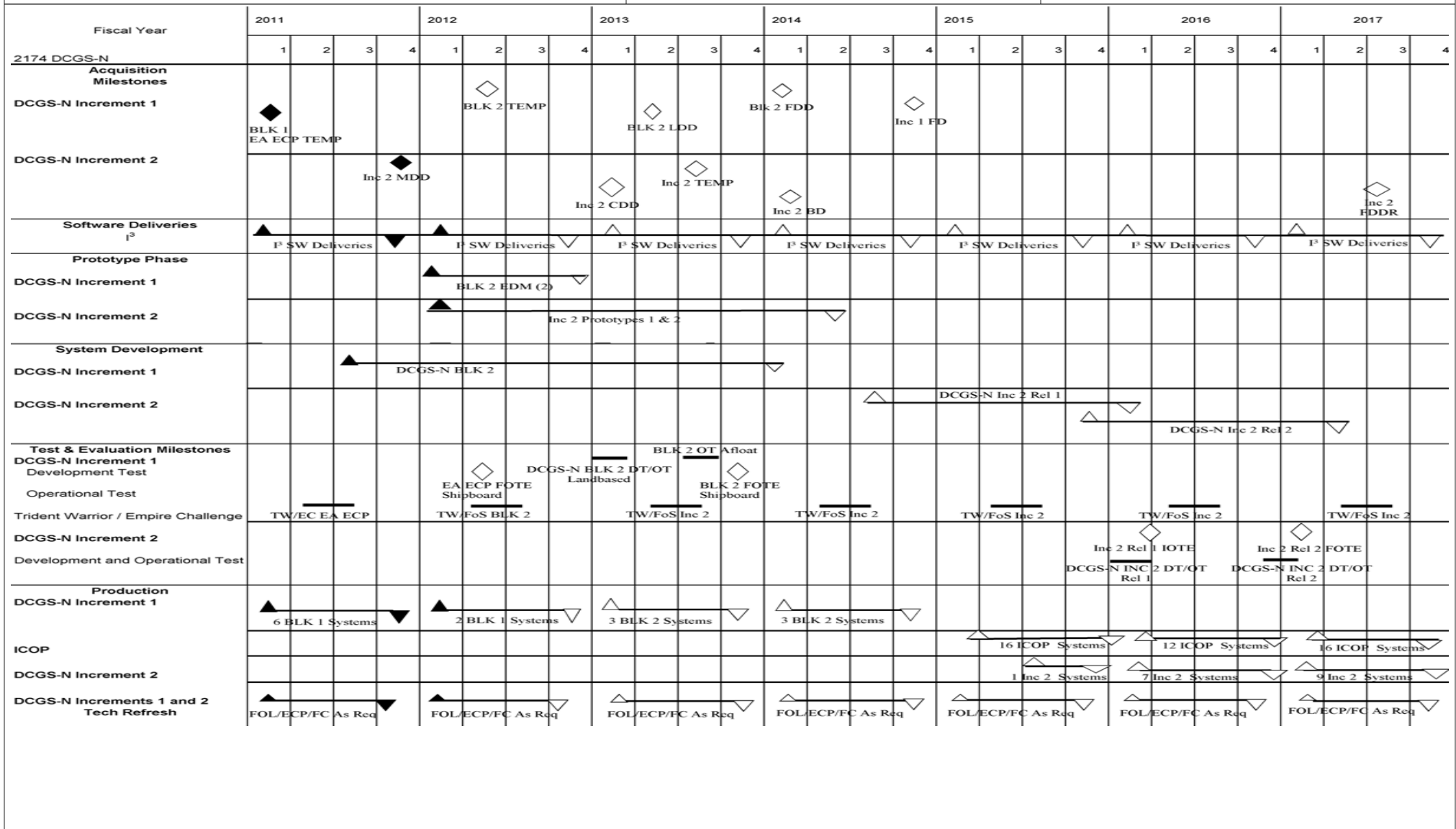
1319: *Research, Development, Test & Evaluation, Navy*
 BA 7: *Operational Systems Development*

R-1 ITEM NOMENCLATURE

PE 0305208N: *Distributed Common Ground Sys*

PROJECT

2174: *Distributed Common Ground System-Navy (DCGS-N)*



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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305208N: <i>Distributed Common Ground Sys</i>	PROJECT 2174: <i>Distributed Common Ground System-Navy (DCGS-N)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2174				
DCGS-N BLK 2 DT/OT Landbased	1	2013	1	2013
DCGS-N BLK 2 FOTE Shipboard	4	2013	4	2013
DCGS-N Inc 2 Release 1 DT/OT Landbased	4	2015	1	2016
Trident Warrior / Empire Challenge EA ECP 2011	2	2011	3	2011
Trident Warrior / DCGS Family of Systems BLK 2 2012	2	2012	3	2012
Trident Warrior / DCGS Family of Systems Inc 2 2013	2	2013	3	2013
Trident Warrior / DCGS Family of Systems Inc 2 2014	2	2014	3	2014
Trident Warrior / DCGS Family of Systems Inc 2 2015	2	2015	3	2015
Trident Warrior / DCGS Family of Systems Inc 2 2016	2	2016	3	2016
Trident Warrior / DCGS Family of Systems Inc 2 2017	2	2017	3	2017
I3 Software Deliveries 2011	1	2011	4	2011
I3 Software Deliveries 2012	1	2012	4	2012
I3 Software Deliveries 2013	1	2013	4	2013
I3 Software Deliveries 2014	1	2014	4	2014
I3 Software Deliveries 2015	1	2015	4	2015
I3 Software Deliveries 2016	1	2016	4	2016
I3 Software Deliveries 2017	1	2017	4	2017
DCGS-N BLK 2 Development	3	2011	1	2014
DCGS-N Inc 2 Release 1 Development	3	2014	1	2016
DCGS-N Inc 2 TEMP	3	2013	3	2013
DCGS-N Inc 2 Release 2 Development	4	2015	2	2017

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305208N: <i>Distributed Common Ground Sys</i>	PROJECT 2174: <i>Distributed Common Ground System-Navy (DCGS-N)</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
DCGS-N BLK 2 LDD	2	2013	2	2013
DCGS-N Inc 2 BD	1	2014	1	2014
DCGS-N Inc 1 FD	4	2014	4	2014
DCGS-N Inc 2 CDD	1	2013	1	2013
DCGS-N Inc 2 Procurement	3	2015	4	2017
DCGS-N Inc 1 BLK 1 EA ECP TEMP	1	2011	1	2011
ICOP Procurement	1	2015	4	2017
DCGS-N Inc 1 BLK 2 TEMP	2	2012	2	2012
DCGS-N Inc 2 MDD	4	2011	4	2011
DCGS-N BLK 2 OT AFLOAT	3	2013	3	2013
DCGS-N Inc 2 FDDR	2	2017	3	2017
DCGS-N Inc 1 Procurement	1	2011	4	2014
EA ECP FOTE (Shipboard)	2	2012	2	2012
DCGS-N Inc 1 BLK 2 EDM (2)	1	2012	4	2012
DCGS-N Inc 2 Prototypes 1 & 2	1	2012	2	2014
DCGS-N Inc 2 Release 2 DT/OT	4	2016	1	2017
DCGS-N Inc 1 and Inc 2 Tech Refresh	1	2011	4	2017
DCGS-N Inc 1 BLK 2 FDD	1	2014	1	2014
DCGS-N Inc 2 Release 1 IOT&E	1	2016	2	2016
DCGS-N Inc 2 Release 2 FOT&E	1	2017	1	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305220N: <i>RQ-4 UAV</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	525.552	548.267	657.483	-	657.483	233.485	162.143	209.848	117.061	120.075	2,573.914
4020: <i>BAMS UAS</i>	525.552	548.267	657.483	-	657.483	233.485	162.143	209.848	117.061	120.075	2,573.914

Note

*Total cost on R2 is not accurate as it does not include the FY10 control amount of \$438.199M. Total cost is \$3,012.113M as shown on the R3.

A. Mission Description and Budget Item Justification

RQ-4 Broad Area Maritime Surveillance (BAMS) Unmanned Aircraft System (UAS)

The BAMS RQ-4 is a High Altitude-Long Endurance UAS designed to provide Fleet and Combatant Commanders with persistent maritime Intelligence, Surveillance and Reconnaissance (ISR) of nearly all the world's high-density sea-lanes, littorals, and areas of national interest. Envisioned as an unmanned adjunct to the P-8A Multi-Mission Maritime Aircraft and crucial to the recapitalization of Navy's airborne maritime ISR capability, the system will seek to leverage Maritime Patrol and Reconnaissance Force manpower, training and maintenance efficiencies.

The RQ-4 air vehicle is based on Northrop Grumman's Block 20 Global Hawk and features sensors designed to provide near worldwide coverage through a network of five orbits inside and outside continental United States, with sufficient air vehicles to remain airborne for 24 hours a day, 7 days a week, out to ranges of 2000 nautical miles. Onboard sensors will provide detection, classification, tracking and identification of maritime targets and include maritime radar, electro-optical/infra-red and Electronic Support Measures systems. Additionally, the RQ-4 will have a communications relay capability designed to link dispersed forces in the theater of operations and serve as a node in the Navy's FORCENet strategy. Tactical-level data analysis will occur in real-time at shore-based Mission Control sites connected to the air vehicle via satellite communications. Further intelligence exploitation can be conducted at Fleet shore-based sites or aboard Aircraft Carriers and other ships.

RQ-4 will play a significant role in the Sea Shield and FORCENet pillars of Sea Power 21. In its Sea Shield role, the system will rely on its key attribute of persistence to provide the supported Combatant Command or Fleet Commander with unparalleled situational awareness of the maritime battle space as it develops and sustains the Common Operational Tactical Picture. The system will also serve as a Fleet Response Plan enabler, while acting as a trip wire for Intelligence Preparation of the Environment. Additionally, BAMS UAS will be a FORCENet enabler and relay platform, directly connected to both the Global Information Grid and the Distributed Common Ground System-Navy Information Backbone.

This PE includes funding in FY15-17 for future incremental development in support of BAMS Increment 3 signals intelligence (SIGINT) capability.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE
1319: <i>Research, Development, Test & Evaluation, Navy</i>	PE 0305220N: <i>RQ-4 UAV</i>
BA 7: <i>Operational Systems Development</i>	

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	529.250	548.482	681.775	-	681.775
Current President's Budget	525.552	548.267	657.483	-	657.483
Total Adjustments	-3.698	-0.215	-24.292	-	-24.292
• Congressional General Reductions	-	-0.215			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.886	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	-	-	-24.418	-	-24.418
• Rate/Misc Adjustments	-	-	0.126	-	0.126
• Congressional General Reductions Adjustments	-2.812	-	-	-	-

Change Summary Explanation

Technical: Not applicable.

Schedule: Broad Area Maritime Surveillance (BAMS) Unmanned Aircraft System (UAS) was directed in an Acquisition Decision Memorandum (ADM) signed on 1 November 2011 to rename the 1st lot of Low Rate Initial Production (LRIP) as System Demonstration Test Articles (SDTA) to finish system development test and to support Operational Evaluation (OPEVAL). SDTA is an incrementally funded, priced option on the BAMS UAS Northrop Grumman System Development & Demonstration (SDD) prime contract. LRIP 2, LRIP 3, and Full Rate Production (FRP) Lot Contract Awards and deliveries were renamed and scheduled accordingly. The schedule has also been updated to reflect a move in Milestone C from 3Q FY13 to 4Q FY13, Flight Readiness Review (FRR) from 2Q FY12 to 4Q FY12 and SDD delivery from 3Q FY12 through 4Q FY12 to 4Q FY12 through 1Q FY13.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305220N: <i>RQ-4 UAV</i>	PROJECT 4020: <i>BAMS UAS</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
4020: <i>BAMS UAS</i>	525.552	548.267	657.483	-	657.483	233.485	162.143	209.848	117.061	120.075	2,573.914
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

RQ-4 Broad Area Maritime Surveillance (BAMS) Unmanned Aircraft System (UAS). RQ-4 is a High Altitude-Long Endurance UAS designed to provide Fleet and Combatant Commanders with persistent maritime Intelligence, Surveillance and Reconnaissance (ISR) of nearly all the world's high-density sea-lanes, littorals, and areas of national interest. Envisioned as an unmanned adjunct to the P-8A Multi-Mission Maritime Aircraft, and crucial to the recapitalization of Navy's airborne maritime ISR capability, the system will seek to leverage Maritime Patrol and Reconnaissance Force manpower, training and maintenance efficiencies.

The RQ-4 air vehicle is based on Northrop Grumman's Block 20 Global Hawk and features sensors designed to provide near worldwide coverage through a network of five orbits inside and outside the continental United States, with sufficient air vehicles to remain airborne for 24 hours a day, 7 days a week, out to ranges of 2000 nautical miles. Onboard sensors will provide detection, classification, tracking and identification of maritime targets and include maritime radar, electro-optical/infra-red and Electronic Support Measures systems. Additionally, BAMS will have a communications relay capability designed to link dispersed forces in the theater of operations and serve as a node in the Navy's FORCENet strategy. Tactical-level data analysis will occur in real-time at shore-based Mission Control sites connected to the air vehicle via satellite communications. Further intelligence exploitation can be conducted at Fleet shore-based sites or aboard Aircraft Carriers and other ships.

RQ-4 will play a significant role in the Sea Shield and FORCENet pillars of Sea Power 21. In its Sea Shield role, the system will rely on its key attribute of persistence to provide the supported Combatant Command or Fleet Commander with unparalleled situational awareness of the maritime battle space as it develops and sustains the Common Operational Tactical Picture. The system will also serve as a Fleet Response Plan enabler, while acting as a trip wire for Intelligence Preparation of the Environment. Additionally, RQ-4 will be a FORCENet enabler and relay platform, directly connected to both the Global Information Grid and the Distributed Common Ground System-Navy Information Backbone.

The RQ-4 system is an evolutionary based acquisition, using an incremental development approach. Two Mission Need Statements (MNSs) support the requirement; 1) BAMS and Littoral Armed ISR MNS, and 2) Long Endurance, Reconnaissance, Surveillance and Target Acquisition Capability MNS. The BAMS UAS Capability Development Document was approved May 2007 by the Joint Requirements Oversight Council.

This Project Unit includes funding in FY15-17 for future incremental development in support of BAMS Increment 3 signals intelligence (SIGINT) capability.

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

	FY 2011	FY 2012	FY 2013
Title: Product Development	495.465	507.723	607.501
Articles:	0	0	3

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305220N: <i>RQ-4 UAV</i>	PROJECT 4020: <i>BAMS UAS</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<p>Description: Awarded contract in FY08 to initiate the Engineering and Manufacturing Development (EMD) phase effort. The Prime Contractor is responsible for overall system development and performance, as well as associated management, engineering and logistics activities.</p> <p>FY 2011 Accomplishments: Continued EMD, including Government engineering support related to EMD.</p> <p>FY 2012 Plans: Continue EMD, including purchase of long lead materials in support of FY13 System Demonstration Test Articles (SDTA) and Government engineering support related to EMD.</p> <p>FY 2013 Plans: Continue EMD, including purchase of 3 SDTA vehicles to support Operational Test and Evaluation. Continue Government engineering support related to EMD.</p>				
<p>Title: ILS, Support, Studies & Analysis</p> <p align="right">Articles:</p> <p>Description: Integrated Logistics Support, Studies and Analysis.</p> <p>FY 2011 Accomplishments: Continued integrated logistics support, technical engineering services, sensor risk reduction, logistics supportability analyses and environmental planning, modeling and simulation, development of manpower and basing assessments, and development of technical data to support fielding of the Broad Area Maritime Surveillance (BAMS) Unmanned Aircraft System (UAS) capabilities.</p> <p>FY 2012 Plans: Continue integrated logistics support, technical engineering services, sensor risk reduction, logistics supportability analyses and environmental planning, modeling and simulation, development of manpower and basing assessments, and development of technical data to support fielding of the BAMS UAS capabilities.</p> <p>FY 2013 Plans: Continue integrated logistics support, technical engineering services, sensor risk reduction, logistics supportability analyses and environmental planning, modeling and simulation, development of manpower and basing assessments, and development of technical data to support fielding of the BAMS UAS capabilities.</p>		12.625 0	14.105 0	13.022 0
<p>Title: Program Management</p> <p align="right">Articles:</p>		6.479 0	6.639 0	6.525 0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305220N: <i>RQ-4 UAV</i>		PROJECT 4020: <i>BAMS UAS</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)			FY 2011	FY 2012	FY 2013
<p>Description: Program Management Support and travel.</p> <p>FY 2011 Accomplishments: Continued the following: Program Management Support and travel, development of milestone and acquisition-related documentation, capability refinement and open systems architecture development, resource justification, affordability assessments and cost analyses, risk reduction and risk management, system integration and interoperability planning, technology maturity reviews, program protection planning, corrosion prevention planning, and Joint and International Cooperation efforts.</p> <p>FY 2012 Plans: Continue the following: Program Management Support and travel, development of milestone and acquisition-related documentation, capability refinement and open systems architecture development, resource justification, affordability assessments and cost analyses, risk reduction and risk management, system integration and interoperability planning, technology maturity reviews, program protection planning, corrosion prevention planning, and Joint and International Cooperation efforts.</p> <p>FY 2013 Plans: Continue the following: Program Management Support and travel, development of milestone and acquisition-related documentation, capability refinement and open systems architecture development, resource justification, affordability assessments and cost analyses, risk reduction and risk management, system integration and interoperability planning, technology maturity reviews, program protection planning, corrosion prevention planning, and Joint and International Cooperation efforts.</p>					
<p>Title: Test & Evaluation (T&E)</p> <p align="right">Articles:</p> <p>Description: T&E efforts.</p> <p>FY 2011 Accomplishments: Continued test and evaluation support activities to allow test and fielding of the Broad Maritime Surveillance (BAMS) Unmanned Aircraft System (UAS).</p> <p>FY 2012 Plans: Continue test and evaluation support activities to allow test and fielding of the BAMS UAS.</p> <p>FY 2013 Plans: Continue test and evaluation support activities to allow test and fielding of the BAMS UAS.</p>			10.983 0	19.800 0	30.435 0
Accomplishments/Planned Programs Subtotals			525.552	548.267	657.483

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305220N: <i>RQ-4 UAV</i>	PROJECT 4020: <i>BAMS UAS</i>
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C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2011	FY 2012	FY 2013	FY 2013	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Cost To	
			Base	OCO	Total					Complete	Total Cost
• RDTE/0305205N: <i>BAMS UAS</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	588.909
• APN-4/044200: <i>RQ-4 UAV</i> (<i>BAMS UAV</i>)	0.000	0.000	51.124	0.000	51.124	495.984	585.786	615.136	703.993	7,459.013	9,911.036
• APN-6/060510: <i>BAMS UAV</i>	0.000	0.000	0.000	0.000	0.000	43.140	42.421	42.390	7.302	1,081.325	1,216.578
• MILCON/0816376N: <i>Broad Area</i> <i>Maritime Surveillance T&E Facility</i>	33.034	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	33.034
• MILCON/0815976N: <i>Facilities</i> <i>New Footprint</i>	0.000	4.482	14.843	0.000	14.843	68.139	96.712	31.517	35.823	0.000	251.516
• MILCON/0203176N: <i>BAMS MOB</i> <i>MCS</i>	0.000	0.000	21.980	0.000	21.980	0.000	0.000	0.000	0.000	0.000	21.980
• MILCON/0212176N: <i>BAMS</i> <i>Tension Fabric Hangers</i>	0.000	0.000	34.048	0.000	34.048	0.000	0.000	0.000	0.000	0.000	34.048

D. Acquisition Strategy

The Broad Area Maritime Surveillance (BAMS) Unmanned Aircraft System (UAS) is an evolutionary-based acquisition, using an incremental development approach. During the pre-Milestone B phase, the program performed technical risk reduction through studies and demonstrations, Engineering and Manufacturing Development (EMD) contract preparation, and Milestone B documentation development activities. Milestone B occurred on 8 April 2008 and EMD award occurred on 22 April 2008. The EMD contract was based on a competitive selection process for a Prime Contractor.

The BAMS UAS program office is pursuing joint efficiency with the Air Force on the Global Hawk UAS. However, the integration of the BAMS UAS into the Maritime Patrol Reconnaissance Force and the unique maritime sensors employed dictate a Navy-led acquisition program focused on joint efficiencies, where possible.

E. Performance Metrics

Successfully achieve Flight Readiness Review, Milestone C, Integrated Test, and Operational Evaluation.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305220N: <i>RQ-4 UAV</i>	PROJECT 4020: <i>BAMS UAS</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	Northrop Grumman: Bethpage, NY	834.705	461.025	Nov 2011	562.886	Nov 2012	-		562.886	315.912	2,174.528	2,174.528
Systems Engineering	Various	Various: Various	3.369	1.278	Nov 2011	1.000	Nov 2012	-		1.000	3.103	8.750	
Award Fees	C/CPAF	Northrop Grumman: Bethpage, NY	17.116	12.533	Dec 2012	12.600	Dec 2013	-		12.600	25.852	68.101	68.101
Systems Engineering	WR	NAWC-AD: Patuxent River, MD	53.853	31.548	Nov 2011	29.660	Nov 2012	-		29.660	34.532	149.593	
Systems Engineering	WR	NAWC-WD: China Lake, CA	2.602	1.339	Nov 2011	1.355	Nov 2012	-		1.355	3.073	8.369	
Increment 3 Development	TBD	TBD: TBD	-	-		-		-		-	379.552	379.552	
Subtotal			911.645	507.723		607.501		-		607.501	762.024	2,788.893	

Remarks
The percentage of funding actually awarded for the FY10 Award Fee period was 80.6%. In FY11, 75.1% of the Award Fee was earned.

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	6.680	3.933	Nov 2011	2.074	Nov 2012	-		2.074	9.217	21.904	
Integrated Logistics Support	Various	Various: Various	1.235	1.799	Nov 2011	1.100	Nov 2012	-		1.100	1.361	5.495	
Development Support	WR	NAVSEA: Dahlgren, VA	6.070	2.362	Dec 2011	2.178	Dec 2012	-		2.178	6.014	16.624	
Integrated Logistics Support	WR	NAWC-AD: Patuxent River, MD	7.746	4.955	Nov 2011	6.603	Nov 2012	-		6.603	5.285	24.589	
Integrated Logistics Support	WR	NAWC-TSD: Orlando, FL	2.054	1.056	Nov 2011	1.067	Nov 2012	-		1.067	3.267	7.444	
Prior Years Support	Various	Various: Various	0.768	-		-		-		-	0.000	0.768	
Subtotal			24.553	14.105		13.022		-		13.022	25.144	76.824	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305220N: <i>RQ-4 UAV</i>	PROJECT 4020: <i>BAMS UAS</i>
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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	4.921	6.859	Nov 2011	9.549	Nov 2012	-		9.549	18.272	39.601	
Developmental Test & Evaluation	WR	NAWC-AD:Patuxent River, MD	10.719	12.941	Nov 2011	18.686	Nov 2012	-		18.686	9.646	51.992	
Operational Test & Evaluation	Various	Various:Various	-	-		2.200	Nov 2012	-		2.200	20.749	22.949	
Subtotal			15.640	19.800		30.435		-		30.435	48.667	114.542	

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	Mitre:McLean, VA	1.993	1.485	Nov 2011	1.606	Nov 2012	-		1.606	1.415	6.499	6.499
Program Management Support	Various	Various:Various	1.489	0.722	Nov 2011	0.438	Nov 2012	-		0.438	1.170	3.819	
Travel	WR	Various:Various	0.622	0.350	Nov 2011	0.309	Nov 2012	-		0.309	0.402	1.683	
Program Management Support	C/CPFF	Ausley:Lexington Park, MD	4.971	2.569	Dec 2011	2.626	Dec 2012	-		2.626	2.384	12.550	12.550
Program Management Support	C/CPFF	Bowhead:Alexandria, VA	2.838	1.513	Dec 2011	1.546	Dec 2012	-		1.546	1.406	7.303	7.303
Subtotal			11.913	6.639		6.525		-		6.525	6.777	31.854	

Remarks
Travel funding vehicle type is TO.

	Total Prior Years Cost	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	963.751	548.267	657.483	-	657.483	842.612	3,012.113	

Remarks
Prior to FY10, BAMS was budgeted for in PE 0305205N: Endurance Unmanned Aer Veh.

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy

DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY
 1319: *Research, Development, Test & Evaluation, Navy*
 BA 7: *Operational Systems Development*

R-1 ITEM NOMENCLATURE
 PE 0305220N: *RQ-4 UAV*

PROJECT
 4020: *BAMS UAS*

Proj 4020	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017									
	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 ▲												FRP ▲										
System Development	Systems Demonstration and Development																																	
	Increment 3 Development																																	
Reviews	CDR ■					FRR ■																												
Test & Evaluation Activities									Integrated Test CT/DT/OT												OTRR ■	OPEVAL												
Production Milestones																																		
Contracts																																		
Deliveries																																		

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305220N: <i>RQ-4 UAV</i>	PROJECT 4020: <i>BAMS UAS</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 4020				
Acquisition Milestones: Milestone C	4	2013	4	2013
Acquisition Milestones: Full Rate Production	1	2016	1	2016
Acquisition Milestones: Initial Operational Capability	1	2016	1	2016
System Development: Systems Demonstration and Development	1	2011	3	2016
System Development: Increment 3 Development	1	2015	4	2017
System Development: Reviews: Critical Design Review	2	2011	2	2011
System Development: Reviews: Flight Readiness Review	4	2012	4	2012
Test & Evaluation Activities: Integrated Test (Combined/Developmental/Operational)	3	2012	4	2014
Test & Evaluation Activities: Operational Test Readiness Review	1	2015	1	2015
Test & Evaluation Activities: OPEVAL	2	2015	3	2015
Production Milestones: Contracts: System Demonstration Test Articles Contract Award	1	2013	1	2013
Production Milestones: Contracts: Low Rate Initial Production 1 Contract Award	1	2014	1	2014
Production Milestones: Contracts: Low Rate Initial Production 2 Contract Award	1	2015	1	2015
Production Milestones: Contracts: Lot 3 Contract Award	1	2016	1	2016
Production Milestones: Contracts: Lot 4 Contract Award	1	2017	1	2017
Production Milestones: Deliveries: System Development and Demonstration Deliveries	4	2012	1	2013
Production Milestones: Deliveries: System Demonstration Test Articles Delivery	4	2014	2	2015
Production Milestones: Deliveries: Low Rate Initial Production 1 Delivery	4	2015	3	2016
Production Milestones: Deliveries: Low Rate Initial Production 2 Delivery	4	2016	3	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY			R-1 ITEM NOMENCLATURE								
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>			PE 0305231N: <i>MQ-8 UAV</i>								
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	67.048	108.248	99.600	-	99.600	49.200	12.200	13.400	-	0.000	349.696
2768: <i>VTUAV</i>	67.048	108.248	99.600	-	99.600	49.200	12.200	13.400	-	0.000	349.696

A. Mission Description and Budget Item Justification

MQ-8 Unmanned Aerial Vehicle Joint Military Intelligence Program.

The MQ-8 (popular name "Fire Scout") Vertical Take-off Unmanned Aerial Vehicle (VTUAV) provides real-time and non-real-time Intelligence, Surveillance and Reconnaissance (ISR) data to tactical users without the use of manned aircraft or reliance on limited joint theater or national assets. The baseline MQ-8 can accomplish missions including over-the-horizon tactical reconnaissance, classification, targeting, laser designation and battle management (including communications relay). The MQ-8 launches and recovers vertically and can operate from air capable ships, as well as confined area land bases. Other characteristics include autonomous air vehicle launch and recovery, autonomous waypoint navigation with command override capability, the incorporation of weapons, the incorporation of an electro-optical/infra-red/laser designator-laser range finder modular mission payload, radar and other specialty payloads. Interoperability is achieved through the use of the Tactical Control System software in the ground control station, and through the use of the Tactical Common Data Link. The data from the MQ-8 will be provided through standard Department of Defense Command, Control, Communications, Computers and Intelligence, Surveillance, and Reconnaissance.

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	10.665	108.248	77.630	-	77.630
Current President's Budget	67.048	108.248	99.600	-	99.600
Total Adjustments	56.383	-	21.970	-	21.970
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	56.437	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	-	-	21.853	-	21.853
• Rate/Misc Adjustments	-	-	0.117	-	0.117
• Congressional General Reductions Adjustments	-0.054	-	-	-	-

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305231N: <i>MQ-8 UAV</i>
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Change Summary Explanation

Technical: Navy VTUAV restructured to transition on-going Rapid Deployment Capability (RDC) initiatives for MQ-8C Endurance Upgrade, radar, weapons, and Special Operations Forces ISR payloads into VTUAV program.

Schedule:

Acquisition milestones have been adjusted due to technical changes:

- Moved MQ-8 Full Rate Production (FRP) from 2Q FY15 to 4Q FY12.
- MQ-8 Engineering Change Proposal (ECP) Initial Operational Capability deleted due to Rapid Deployment Capability (RDC) process.
- Littoral Combat Ship Integration added to System Development.
- System Development efforts updated to reflect Radar, Weapons and other payloads RDC.
- Weapons Review name changed to MQ-8C RDC to support radar, weapons, and SOF Intelligence, Surveillance and Reconnaissance payloads.
- With transition of ongoing payload initiatives, reviews for System Readiness Review, Preliminary Design Review, Critical Design Review and Quick Reaction Assessments.
- Specialty Payloads Review added to support ongoing payload initiatives.
- With the change in FRP from 2Q FY15 to 4Q FY12 award and delivery dates have been adjusted.
- Production milestones and deliveries were updated to reflect MQ-8 RDC and FRP milestones.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305231N: <i>MQ-8 UAV</i>	PROJECT 2768: <i>VTUAV</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2768: <i>VTUAV</i>	67.048	108.248	99.600	-	99.600	49.200	12.200	13.400	-	0.000	349.696
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The MQ-8 (popular name "Fire Scout") Vertical Take-off Unmanned Aerial Vehicle (VTUAV) provides real-time and non-real-time Intelligence, Surveillance and Reconnaissance (ISR) data to tactical users without the use of manned aircraft or reliance on limited joint theater or national assets. The baseline MQ-8 can accomplish missions including over-the-horizon tactical reconnaissance, classification, targeting, laser designation and battle management (including voice relay). The MQ-8 launches and recovers vertically and can operate from air capable ships, as well as confined area land bases. Other characteristics include autonomous air vehicle launch and recovery, autonomous waypoint navigation with command override capability, the incorporation of weapons, the incorporation of an electro-optical/infra-red laser designator-laser range finder modular mission payload, radar and other specialty payloads. Interoperability is achieved through the use of the Tactical Control System (TCS) software in the ground control station, and through the use of the Tactical Common Data Link (TCDL). The data from the MQ-8 will be provided through standard DoD Command, Control, Communications, Computers and Intelligence, Surveillance, and Reconnaissance system architectures and protocols.

The MQ-8 system is composed of air frames, avionics, software and associated spares and support equipment, electro-optical/infra-red/laser designator-range finder payloads, radar, weapons, automatic identification system, other payloads, Ground Control Stations (with TCS), aircraft and control station TCDC elements, and a Unmanned Aerial Vehicle Common Automatic Recovery System for automatic takeoff and landing from ships. The MQ-8 system will support the Surface Warfare, Mine Countermeasures Warfare and Anti-Submarine Warfare mission modules while operating on Littoral Combat Ship. The system will also be integrated on select surface combatants that are air capable and can host MQ-8 ancillary equipment. A limited number of land based control stations supplement the system to support shore based operations, such as predeployment, acceptance flights and expeditionary operations. These assets will also support depot level maintenance/post maintenance activities. MQ-8B aircraft with payload modification and Navy FFG and DDG ships will be used to support Special Operations Forces (SOF) Intelligence Surveillance and Reconnaissance (ISR) Joint Urgency of Need Statment and Navy Urgency of Need Statment near-term Rapid Deployment Capabilities.

MQ-8C endurance modification is an Rapid Deployment Capability (RDC) in response to a Special Operations Command Joint Urgent Operational Needs Statement (JUONS) to the existing system and in response to SOF, endorsed by US Africa Command, request for a sea based medium range, persistent ISR unmanned air system. Fire Scout will increase endurance, procure additional aircraft, and modify 12 additional ships in the Fiscal Year Defense Plan (FYDP) to support multiple orbits through FY19. The fundamental concept of the MQ-8C RDC is to leverage over 85% of the Fire Scout system hardware and 95% of the software. The MQ-8C RDC will use the existing Ground Control Station, Command and Control (C2) links, avionics, payloads, and logistics and FFG/DDG ships previously modified for Fire Scout. Three aircraft with spares will support developmental testing with a focus on flight quantities and performance along with hardware integration and software testing. The MQ-8C RDC will rehost the avionics, software and Command and Control (C2) sub-systems into a new airframe. A new airframe will provide the extended endurance and payload capacity to support the JUONS requirements for orbital coverage in specific Areas of Responsibility. The MQ-8C RDC will retain the baseline targeting capability with an Electro-Optic/Infrared payload and be compatible with the existing ground control stations and C2 architecture for operations at sea or from an expeditionary base ashore. The MQ-8C effort will also assess/integrate payloads that are specific to the SOF mission including electronic warfare, signals

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305231N: <i>MQ-8 UAV</i>	PROJECT 2768: <i>VTUAV</i>
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intelligence and radar. The program will carry forward the payloads, such as Brite Star II, Coastal Battlefield Reconnaissance and Analysis, Automated Identification System, specialty payloads, weapons and radar planned for on-going MQ-8B RDCs. The MQ-8C increased endurance and payload capacity may allow the Navy to fully meet the Littoral Combat Ship (LCS) mission requirements with fewer aircraft lowering the Fire Scout's total ownership cost.

A weapons Rapid Deployment Capability (RDC) and a radar RDC for Fire Scout is also part of the program in response to a Navy Urgent Operational Needs Statement.

The Vertical Take-off Unmanned Aerial Vehicle (VTUAV) program is post Milestone C (MS C), which was approved in May 2007. MS C authorized entry into Low Rate Initial Production. A total of seven air vehicles and three control stations were previously purchased with Research Development Test & Evaluation funds under System Design and Development.

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

	FY 2011	FY 2012	FY 2013
<p>Title: Hardware and System Development</p> <p align="right">Articles:</p> <p>FY 2011 Accomplishments: Continue incremental integration of MQ-8 Air Vehicles to support the Engineering and Manufacturing Development program. Start integration of radar. Continue integration of the Coastal Battlefield Reconnaissance and Analysis (COBRA) payload. Continue to support Littoral Combat Ship (LCS) integration. Integrate MQ-8 onto USS HALYBURTON and conduct testing with specialty payloads to deploy the system land base in Operation Enduring Freedom. Start Weapon integration RDC.</p> <p>FY 2012 Plans: Begin MQ-8C RDC integration. Continue development and testing of Special Operations Forces (SOF) provided payloads. Continue integration of the radar, weapons, specialty payloads, and COBRA payload. Complete Vertical Take-off Unmanned Air Vehicle (VTUAV) systems development. Continue to support LCS integration. Continue Weapons requirement development, integration and a Quick Reaction Assessment as required for RDC designated programs.</p> <p>FY 2013 Plans: Continue MQ-8C RDC, Weapons RDC, radar and other payload integration, continue LCS testing, and continue other air capable ship class integration and testing.</p>	<p>46.162</p> <p>0</p>	<p>92.000</p> <p>0</p>	<p>73.270</p> <p>0</p>
<p>Title: Development/Operational Testing</p> <p align="right">Articles:</p> <p>FY 2011 Accomplishments: Continue Integrated Test Team Testing. Continue Continue Littoral Combat Ship (LCS) integration efforts.</p> <p>FY 2012 Plans:</p>	<p>5.600</p> <p>0</p>	<p>6.300</p> <p>0</p>	<p>6.930</p> <p>0</p>

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305231N: <i>MQ-8 UAV</i>	PROJECT 2768: <i>VTUAV</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Complete Operation Evaluation of MQ-8B baseline. Continue VTUAV SOF system payloads. Continue LCS integration efforts. ? Continue Weapons and radar integration efforts.			
FY 2013 Plans: Continue MQ-8C Rapid Developmental Capability (RDC) Developmental Testing. Start Radar Developmental Testing and prepare for Quick Reaction Assessment testing. Continue LCS and other Class Ship integration and testing. Continue Weapons RDC testing.			
Title: Engineering and Technical Services	15.286	9.948	19.400
Articles:	0	0	0
FY 2011 Accomplishments: Continue engineering management, program technical management, and management support for the VTUAV system. These include transportation of system assets, program office personnel travel, and contract support services. Continue to support LCS integration and payloads integration.			
FY 2012 Plans: Continue engineering, program technical management, and logistics support for the VTUAV system and RDC efforts. These include transportation of system assets, program office personnel travel, and contract support services. Continue to support LCS integration. Continue payloads integration. Continue Weapons integration, systems engineering, and test and evaluation. Continue Engineering and Logistics to Transition Weapons, Radar, and SOF payloads RDC.			
FY 2013 Plans: Continue engineering, program technical management, and logistics support for the VTUAV system. These include transportation of system assets, program office personnel travel, and contract support services. Continue to support LCS and other Class Ship integration and payload integration. Continue Weapons integration, weapons studies, systems engineering, and test and evaluation. Continue MQ-8C RDC integration. Continue payload and system studies.			
Accomplishments/Planned Programs Subtotals	67.048	108.248	99.600

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• RD TEN, 0305204N: <i>Tactical Unmanned Aerial Vehicles</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	562.137
• APN, 044300: <i>MQ-8 UAV</i>	58.732	191.986	124.573	0.000	124.573	129.003	114.750	124.510	94.990	1,176.542	2,277.003
• APN, 060510: <i>MQ-8 UAV Spares</i>	3.468	3.631	9.222	0.000	9.222	34.870	34.813	32.783	16.922	99.990	268.109

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305231N: <i>MQ-8 UAV</i>	PROJECT 2768: <i>VTUAV</i>
<u>D. Acquisition Strategy</u> Continue incremental integration of MQ-8 System to support the Engineering and Manufacturing Development program and RDC efforts. Continue the MQ-8 program, payload integration, weaponization and Littoral Combat Ship and other Ship Class integration support. Full Rate Production and Initial Operational Capability will follow completion of Operation Test and Evaluation.		
<u>E. Performance Metrics</u> Successfully achieve Initial Operational Capability. Successfully achieve Coastal Battlefield Reconnaissance and Analysis integration. Successfully achieve Radar Sensor RDC. Successfully achieve Ship Integration. Successfully achieve weaponization RDC. Successfully support interim Special Operations Forces mission.		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305231N: <i>MQ-8 UAV</i>	PROJECT 2768: <i>VTUAV</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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/FFP	Northrop Grumman Corp:San Diego, CA	81.622	75.000	Nov 2011	70.270	Nov 2012	-		70.270	14.100	240.992	240.992
Primary Hardware Development	SS/FFP	Raytheon Corp:Falls Church, VA	7.000	5.000	Nov 2011	3.000	Nov 2012	-		3.000	2.700	17.700	17.700
Subtotal			88.622	80.000		73.270		-		73.270	16.800	258.692	258.692

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	Various	Various:Various	1.165	1.700	Nov 2011	5.600	Nov 2012	-		5.600	3.900	12.365	
Subtotal			1.165	1.700		5.600		-		5.600	3.900	12.365	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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:PAXRV, MD	-	7.000	Nov 2011	5.430	Nov 2012	-		5.430	6.900	19.330	
Operational Test & Evaluation	WR	NAWCAD:PAXRV, MD	0.650	0.600	Nov 2011	1.500	Nov 2012	-		1.500	2.800	5.550	
Prior Years T&E	Various	Various:Various	0.342	-		-		-		-	0.000	0.342	
Subtotal			0.992	7.600		6.930		-		6.930	9.700	25.222	

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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:PAXRV, MD	24.465	14.248	Nov 2011	8.300	Nov 2012	-		8.300	13.100	60.113	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305231N: <i>MQ-8 UAV</i>	PROJECT 2768: <i>VTUAV</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	0.370	3.600	Nov 2011	5.200	Nov 2012	-		5.200	11.200	20.370	
Travel	WR	NAVAIR:PAXRV, MD	0.277	0.400	Nov 2011	0.300	Nov 2012	-		0.300	1.600	2.577	
Contractor Engineering Support	Various	Various:Various	0.600	0.700	Nov 2011	-		-		-	0.000	1.300	
Subtotal			25.712	18.948		13.800		-		13.800	25.900	84.360	

Remarks
Travel contract type is TO.

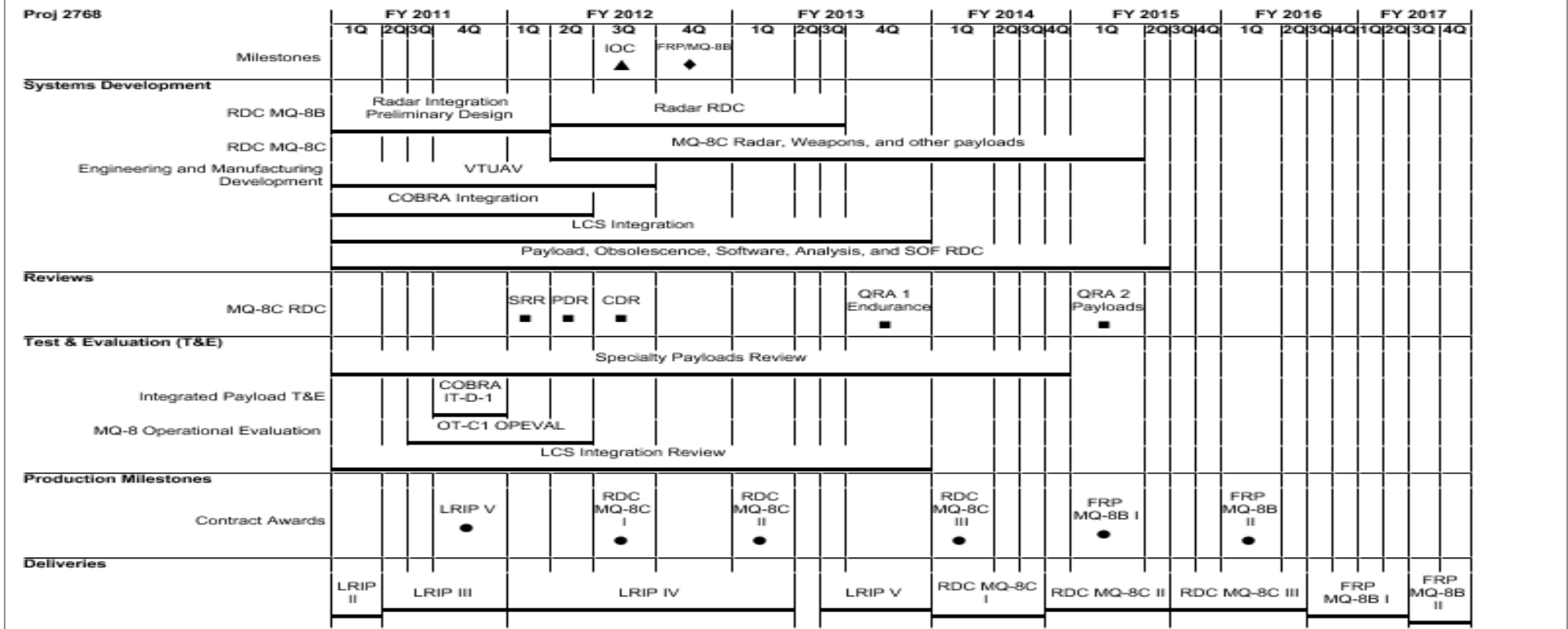
	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	116.491	108.248		99.600		-		99.600	56.300	380.639	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305231N: MQ-8 UAV	PROJECT 2768: VTUAV
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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305231N: <i>MQ-8 UAV</i>	PROJECT 2768: <i>VTUAV</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2768				
Milestones: Initial Operational Capability	3	2012	3	2012
Milestones: Full Rate Production MQ-8B	4	2012	4	2012
Systems Development: RDC MQ-8B: Radar RDC	2	2012	3	2013
Systems Development: RDC MQ-8B: Radar Integration Preliminary Design	1	2011	1	2012
Systems Development: RDC MQ-8C: MQ-8C Radar, Weapons, and other payloads	2	2012	1	2015
Systems Development: Engineering and Manufacturing Development: VTUAV	1	2011	3	2012
Systems Development: Engineering and Manufacturing Development: Coastal Battlefield Reconnaissance and Analysis Integration	1	2011	2	2012
Systems Development: Engineering and Manufacturing Development: Littoral Combat Ship Integration	1	2011	4	2013
Systems Development: Engineering and Manufacturing Development: Payload, Obsolescence, Software, Analysis, and SOF RDC	1	2011	2	2015
Reviews: MQ-8C RDC: System Readiness Review	1	2012	1	2012
Reviews: MQ-8C RDC: Preliminary Design Review	2	2012	2	2012
Reviews: MQ-8C RDC: Critical Design Review	3	2012	3	2012
Reviews: MQ-8C RDC: Quick Reaction Assessment 1 Endurance MQ-8C	4	2013	4	2013
Reviews: MQ-8C RDC: Quick Reaction Assessment 2 MQ-8C radar, weapons, and payloads	1	2015	1	2015
Test & Evaluation (T&E): Specialty Payloads Review	1	2011	4	2014
Test & Evaluation (T&E): Integrated Payload T&E: Coastal Battlefield Reconnaissance and Analysis IT-D-1	4	2011	4	2011
Test & Evaluation (T&E): MQ-8 Operational Evaluation: MQ-8 OT-C1	2	2012	3	2012

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305231N: <i>MQ-8 UAV</i>	PROJECT 2768: <i>VTUAV</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Test & Evaluation (T&E): MQ-8 Operational Evaluation: Littoral Combat Ship Integration Review	1	2011	4	2013
Production Milestones: Contract Awards: Low Rate Initial Production (LRIP) Aircraft Procurement, Navy (APN) Contract Award V	4	2011	4	2011
Production Milestones: Contract Awards: Rapid Deployment Capability (RDC) MQ-8C I	3	2012	3	2012
Production Milestones: Contract Awards: Rapid Deployment Capability (RDC) MQ-8C II	1	2013	1	2013
Production Milestones: Contract Awards: Rapid Deployment Capability (RDC) MQ-8C III	1	2014	1	2014
Production Milestones: Contract Awards: Full Rate Production (FRP) MQ-8B I	1	2015	1	2015
Production Milestones: Contract Awards: Full Rate Production (FRP) MQ-8B II	1	2016	1	2016
Deliveries: Air Vehicles - LRIP II APN	1	2011	1	2011
Deliveries: Air Vehicles - LRIP III APN	2	2011	4	2011
Deliveries: Air Vehicles - LRIP IV APN	1	2012	1	2013
Deliveries: Air Vehicles - LRIP V APN	3	2013	4	2013
Deliveries: Air Vehicles - RDC MQ-8C I	1	2014	3	2014
Deliveries: Air Vehicles - RDC MQ-8C II	4	2014	2	2015
Deliveries: Air Vehicles - RDC MQ-8C III	3	2015	2	2016
Deliveries: Air Vehicles - FRP MQ-8B I	3	2016	2	2017
Deliveries: Air Vehicles - FRP MQ-8B II	3	2017	4	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY			R-1 ITEM NOMENCLATURE								
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>			PE 0305232M: <i>RQ-11 UAV</i>								
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	0.509	0.979	0.495	-	0.495	0.491	0.488	0.486	0.487	Continuing	Continuing
2292: <i>RQ-11 UAV</i>	0.509	0.979	0.495	-	0.495	0.491	0.488	0.486	0.487	Continuing	Continuing

Note

In FY 2009 and prior, RQ-11 Unmanned Aerial Vehicle (UAV) was funded in PE 0206313M, C2273. The project is funded in PE 0305232M C2292 for FY 2011 and out.

A. Mission Description and Budget Item Justification

GROUP 1 (formerly known as TIER I UAS) - The program office is pursuing a rapid acquisition approach to quickly field new technology and capabilities to the warfighter. The strategy is to use evolutionary acquisition with two incremental developments to meet the final desired Small Unit Remote Scouting System (SURSS) requirements (Joint USMC/USA/SOCOM capabilities). The SURSS Block 0, Dragon Eye, was the first increment and is currently fielded to deployed units. For the Block 1 increment the USMC adopted the USSOCOM Rucksack Portable UAV (RPUAV) ORD, which meets the USMC's requirement and began migrating to the joint materiel solution, the Raven B.

B. Program Change Summary (\$ in Millions)

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	0.512	0.979	1.010	-	1.010
Current President's Budget	0.509	0.979	0.495	-	0.495
Total Adjustments	-0.003	-	-0.515	-	-0.515
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	-	-	-0.509	-	-0.509
• Rate/Misc Adjustments	-	-	-0.006	-	-0.006
• Congressional General Reductions Adjustments	-0.003	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305232M: <i>RQ-11 UAV</i>	PROJECT 2292: <i>RQ-11 UAV</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2292: <i>RQ-11 UAV</i>	0.509	0.979	0.495	-	0.495	0.491	0.488	0.486	0.487	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

GROUP 1 (formerly known as TIER I UAS) - The program office is pursuing a rapid acquisition approach to quickly field new technology and capabilities to the warfighter. The strategy is to use evolutionary acquisition with two incremental developments to meet the final desired Small Unit Remote Scouting System (SURSS) requirements (Joint USMC/USA/SOCOM capabilities). The SURSS Block 0, Dragon Eye, was the first increment and was fielded to deployed units. Dragon Eyes are being removed and replaced with the Raven B. For the Block 1 increment the USMC adopted the USSOCOM Rucksack Portable UAV (RPUAV) ORD, which meets the USMC's requirement and began migrating to the joint materiel solution, the Raven B. Raven B's are transitioning from an 8 Channel to a Digital Data Link (DDL) version while pursuing Tactical Network Sensor Suite (TNS2) technology which provides enhanced opportunities to detect irregular and asymmetric threats in a variety of domains, including urban providing the warfighter with enhanced situational awareness and understanding. In concert with TNS2 technology development, continue research/testing to support a more aerodynamic Raven B to increase UAV time of flight, allowing significantly more reconnaissance information to be readily available to soldiers on the ground.

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

	FY 2011	FY 2012	FY 2013
Title: Program Management and Support	0.509	0.979	0.495
Articles:	0	0	0
FY 2011 Accomplishments: Funded Tactical Network Sensor Suite (TNS2) program. This initiative supports the experimentation, integration and product enhancement of the Marine Corps UAS program, communications hardware and C2 software.			
FY 2012 Plans: Continue to fund Tactical Network Sensor Suite (TNS2) program. This initiative continues to support the development, experimentation, integration and product enhancement of the Marine Corps UAS program, communications hardware and C2 software.			
FY 2013 Plans: Continue to fund Tactical Network Sensor Suite (TNS2) program. This initiative continues to support the development, experimentation, integration and product enhancement of the Marine Corps UAS program, communications hardware and C2 software.			
Accomplishments/Planned Programs Subtotals	0.509	0.979	0.495

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305232M: <i>RQ-11 UAV</i>	PROJECT 2292: <i>RQ-11 UAV</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• PMC/4757: <i>Tier I UAS</i>	18.157	2.104	2.318	0.000	2.318	2.327	2.335	2.340	2.349	0.000	34.892

D. Acquisition Strategy

The program office is pursuing a rapid acquisition approach to quickly field new technology and capabilities to the warfighter. The strategy is to use evolutionary acquisition with two incremental developments to meet the final desired Small Unit Remote Scouting System (SURSS) requirements (Joint USMC/USA/SOCOM capabilities).

E. Performance Metrics

Fielded joint material solution.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305232M: <i>RQ-11 UAV</i>	PROJECT 2292: <i>RQ-11 UAV</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Tier I	MIPR	NSWC:Dahlgren	1.012	0.330	Oct 2011	-		-		-	0.000	1.342	
Subtotal			1.012	0.330		-		-		-	0.000	1.342	

Remarks
Development and testing of Raven B-DDL (Digital Data Link) with TNS2 (Tactical Network Sensor Suite) technology.

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Tier I	MIPR	NAWC AD:Pax River	0.051	0.649	Oct 2011	0.495	Oct 2012	-		0.495	0.000	1.195	
Subtotal			0.051	0.649		0.495		-		0.495	0.000	1.195	

Remarks
Research and test an aerodynamic model for Raven B.

	Total Prior Years Cost	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	1.063	0.979	0.495	-	0.495	0.000	2.537	

Remarks

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305233N: <i>RQ-7 UAV</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	25.229	0.872	0.863	7.600	8.463	0.874	0.876	0.891	0.906	Continuing	Continuing
9156: <i>Wide Focal Plane Array Camera (WFPAC)</i>	6.900	-	-	-	-	-	-	-	-	0.000	6.900
9C84: <i>MCTUAS</i>	18.329	0.872	0.863	7.600	8.463	0.874	0.876	0.891	0.906	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element supports additional capability development for the RQ-7 Shadow non-lethal joint tactical Unmanned Aerial Vehicle system for Department of Defense to provide the warfighter with the capability for day/night aerial Reconnaissance, Surveillance and Target Acquisition, intelligence, battle damage assessment, and force protection.

FY11 request includes \$6.9M in Overseas Contingency Operation funds for Wide Focal Plane Array Camera in support of Operation Enduring Freedom - Afghanistan.

B. Program Change Summary (\$ in Millions)

	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013 Base</u>	<u>FY 2013 OCO</u>	<u>FY 2013 Total</u>
Previous President's Budget	0.934	0.872	0.871	-	0.871
Current President's Budget	25.229	0.872	0.863	7.600	8.463
Total Adjustments	24.295	-	-0.008	7.600	7.592
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	17.400	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	6.900	-	-0.008	7.600	7.592
• Congressional General Reductions Adjustments	-0.005	-	-	-	-

Change Summary Explanation

Schedule: Not applicable.
Technical: Not applicable.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305233N: <i>RQ-7 UAV</i>	PROJECT 9156: <i>Wide Focal Plane Array Camera (WFPAC)</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
9156: <i>Wide Focal Plane Array Camera (WFPAC)</i>	6.900	-	-	-	-	-	-	-	-	0.000	6.900
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

FY11 request included \$6.9M in Overseas Contingency Operation funds for Wide Focal Plane Array Camera (WFPAC) in support of Operation Enduring Freedom (OEF) - Afghanistan.

A. Mission Description and Budget Item Justification

Program completed development, testing, integration and initial procurement of a WFPAC sensor for the RQ-7 Shadow Unmanned Aircraft System (UAS) in support of OEF - Afghanistan. The Office of Naval Research is leading the development and funding the low rate initial procurement. These funds support the test and integration efforts for the Marine Corps Shadow systems.

The WFPAC sensor enhancement addresses the Marine Expeditionary Brigade's near-term organic persistent Intelligence, Surveillance and Reconnaissance requirement in Afghanistan as well as providing an enduring capability in a reduced form factor tactical UAS sensor.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Engineering, Integration, and Testing	6.900	-	-	-	-
Articles:	0				
Description: Integration and testing of the WFPAC sensor on the RQ-7 Shadow UAS to include engineering support for the planned deployment in support of a Field User Evaluation by Marine Corps units deployed in OEF.					
FY 2011 Accomplishments: Supported integration and testing of the WFPAC Sensor on the RQ-7 Shadow UAS.					
Accomplishments/Planned Programs Subtotals	6.900	-	-	-	-

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

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305233N: <i>RQ-7 UAV</i>	PROJECT 9156: <i>Wide Focal Plane Array Camera (WFPAC)</i>

D. Acquisition Strategy

The program office leveraged Army contracting by UAS Program Manager to integrate WFPAC onto the RQ-7 Unmanned Aerial Vehicle.

E. Performance Metrics

Wide Focal Plane Array Camera successfully integrated onto RQ-7 Unmanned Aerial Vehicle.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305233N: <i>RQ-7 UAV</i>	PROJECT 9C84: <i>MCTUAS</i>
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COST (\$ in Millions)	FY 2011		FY 2012		FY 2013		FY 2014		FY 2015		Cost To Complete	Total Cost
	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017			
9C84: <i>MCTUAS</i>	18.329	0.872	0.863	7.600	8.463	0.874	0.876	0.891	0.906	Continuing	Continuing	
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0			

A. Mission Description and Budget Item Justification

This Marine Corps Tactical Unmanned Aircraft System (MCTUAS) project supports the fielded RQ-7B Shadow Unmanned Aerial Vehicle (UAV) system by conducting research, development, test, and evaluation for improvement of the RQ-7 UAV capabilities in Reconnaissance, Surveillance and Target Acquisition, Intelligence, Battle Damage Assessment, Laser Designation and Force Protection. The RQ-7B Shadow UAV system provides critical battlefield intelligence and targeting information in the rapid cycle time required for success at the tactical level.

RQ-7B Shadow UAV systems are acquired through the Army's Unmanned Aerial System (UAS) Program Office to fulfill Marine Corps UAS requirements. In order to optimize interoperability, maintenance, and capability with minimal cost, the Marine Corps and Army plan to develop additional capabilities for the common RQ-7 system. These funds represent the Marine Corps share of the combined development cost and the RQ-7 specific efforts of the NAVAIR 5.1 UAV Test Squadron.

Funds will provide for the integration of an in-production weapon on the RQ-7B Shadow UAV in response to an Urgent Universal Needs Statement that was initiated by operational units in the Operation Enduring Freedom - Afghanistan theater of operations. This covers all analysis and integration of the weapon to include the development of/modification to a Stores Management System and its integration onto the RQ-7B Shadow UAV. The integration/development effort is anticipated to be between 12 and 18 months in length leading to a Field User Assessment.

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

	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: MCTUAS Development Support	0.929	0.872	0.863	-	0.863
Articles:	0	0	0		0
Description: Joint development efforts with US Army RQ-7 Shadow Program, associated government engineering support for common RQ-7 block upgrades, and test and evaluation support required for continued improvement and interoperability.					
FY 2011 Accomplishments: The RQ-7 MCTUAS program benefitted and shared in cost for the following common Shadow developmental efforts: heavy fuel engine, airframe modifications to support all-weather payload requirements, integration of Synthetic Aperture Radar, Signal Intelligence, and High Definition video payloads, and system engineering/reliability solutions (including avionics reliability solutions to meet emerging national airspace requirements).					

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy				DATE: February 2012													
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>		R-1 ITEM NOMENCLATURE PE 0305233N: <i>RQ-7 UAV</i>		PROJECT 9C84: <i>MCTUAS</i>													
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)																	
FY11 funded the Marine Corps share of the combined development cost and was also used for government engineering support.																	
FY 2012 Plans: Continue with Marine Corps share of the costs of common RQ-7 development efforts and government engineering support for control systems, power plant, Intelligence Surveillance Reconnaissance (ISR) systems and weapons capabilities initiatives and continues support for efforts begun in FY11.																	
FY 2013 Base Plans: Funding continues development of and government engineering support for ongoing initiatives and will initiate development efforts for improvements to ISR systems, external payloads, and communications systems. Funding will be used to continue RQ-7 Shadow test and evaluation efforts of the Navy Unmanned Aerial Vehicle Test Squadron.																	
Title: RQ-7 Weaponization																	
Articles:																	
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 65%;"></td> <td style="width: 10%; text-align: center;">17.400</td> <td style="width: 10%; text-align: center;">-</td> <td style="width: 10%; text-align: center;">-</td> <td style="width: 10%; text-align: center;">7.600</td> <td style="width: 10%; text-align: center;">7.600</td> </tr> <tr> <td></td> <td style="text-align: center;">0</td> <td></td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> </tr> </table>							17.400	-	-	7.600	7.600		0		0	0	0
	17.400	-	-	7.600	7.600												
	0		0	0	0												
Description: Integration of an in-production weapon on the RQ-7B Shadow Unmanned Aerial System in response to an Urgent Universal Needs Statement that was initiated by operational units in the Operation Enduring Freedom (OEF) - Afghanistan theater of operation.																	
FY 2011 Accomplishments: FY11 funding was utilized for the initiation of non-recurring engineering associated with the development and integration of a weapons capability into 2 USMC RQ-7 Shadow systems. Weaponization of the RQ-7B Shadow system satisfies the Marine Corps Requirements Oversight Council approved requirements and provides a required strike capability for the RQ-7B USMC Shadow Squadrons conducting operations in OEF.																	
FY 2013 Base Plans: N/A																	
FY 2013 OCO Plans: FY13 OCO Plans: FY13 funding will complete the development and integration of a weapons capability into 2 USMC RQ-7 Shadow systems. Funding will provide for required test and evaluation of those systems to include a Field User Evaluation in theater.																	
Accomplishments/Planned Programs Subtotals																	
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 65%;"></td> <td style="width: 10%; text-align: center;">18.329</td> <td style="width: 10%; text-align: center;">0.872</td> <td style="width: 10%; text-align: center;">0.863</td> <td style="width: 10%; text-align: center;">7.600</td> <td style="width: 10%; text-align: center;">8.463</td> </tr> </table>							18.329	0.872	0.863	7.600	8.463						
	18.329	0.872	0.863	7.600	8.463												

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305233N: <i>RQ-7 UAV</i>	PROJECT 9C84: <i>MCTUAS</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• APN/058900: <i>RQ-7 UAV</i>	26.017	0.000	11.524	37.800	49.324	11.735	0.000	0.000	0.000	0.000	87.076

D. Acquisition Strategy

Sole source engineering development services contract with Aircraft Armament Incorporated through Army Program Management Unmanned Aerial Systems.

The program office is leveraging Army contracting by Unmanned Aerial System Program Manager to integrate weapons onto the RQ-7 Unmanned Aerial Vehicle (UAV). Government engineering support provided by Program Management Unmanned Aerial Systems (PM UAS), Naval Air Warfare Center-Weapons Division (NAWCWD), and Naval Air Warfare Center - Aircraft Division.

E. Performance Metrics

Attainment of targeted development effort upgrades improving operational capability of the RQ-7 UAV (Marine Corps Tactical Unmanned Aircraft System).

Weapon successfully integrated onto RQ-7 UAV.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305233N: <i>RQ-7 UAV</i>	PROJECT 9C84: <i>MCTUAS</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	NAWCWD:China Lake, CA	1.250	-		-		-		-	Continuing	Continuing	Continuing
Weapon Integration	MIPR	PM UAS:Huntsville, AL	13.400	-		-		-		-	Continuing	Continuing	Continuing
Subtotal			14.650	-		-		-		-			

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 Engineering Support	WR	NAWCWD:China Lake, CA	-	-		-		1.700	Nov 2012	1.700	Continuing	Continuing	Continuing
Engineering Support	WR	NAWCAD:Pax River, MD	0.715	-		-		0.715	Nov 2012	0.715	Continuing	Continuing	Continuing
Joint Development Efforts	Various	Various:Various	1.916	0.872	Jan 2012	0.863	Jan 2013	-		0.863	Continuing	Continuing	Continuing
Subtotal			2.631	0.872		0.863		2.415		3.278			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Flight Test Support	WR	NAWCWD:China Lake, CA	-	-		-		1.000	Nov 2012	1.000	Continuing	Continuing	Continuing
Weapon Testing	MIPR	PM UAS:Huntsville, AL	2.035	-		-		4.185	Jun 2013	4.185	Continuing	Continuing	Continuing
Subtotal			2.035	-		-		5.185		5.185			

			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			19.316	0.872		0.863		7.600		8.463			

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305233N: <i>RQ-7 UAV</i>	PROJECT 9C84: <i>MCTUAS</i>
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RQ-7	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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
Product Development	<div style="text-align: center; margin-top: 20px;">Joint Development Efforts</div>																											
	<div style="text-align: center; margin-top: 20px;">Weapon Integration</div>																											
Test and Evaluation	<div style="text-align: center; margin-top: 20px;">Weapon Testing</div>																											

2013PB - 0305233N - 9C84

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305233N: <i>RQ-7 UAV</i>	PROJECT 9C84: <i>MCTUAS</i>
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
RQ-7				
Product Development: Joint Development Efforts	1	2011	4	2017
Product Development: Weapon Integration	2	2012	1	2013
Test and Evaluation: Weapon Testing	3	2012	3	2013

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305234M: (U)RQ-21A (STUASLO)
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	26.076	-	-	-	-	-	-	-	-	0.000	26.076
2298: <i>SMALL (LEVEL 0) TACTICAL UAS (STUALO)</i>	26.076	-	-	-	-	-	-	-	-	0.000	26.076

Note

The Tier II program is in PE 0305234M, Project C2272 in FY10. The Tier II program is in PE 0305234M, Project C2298 in FY11. The Tier II program was realigned to PE 0305239M, Project C2298 in FY12 and out. The Navy PE is 0305234N.

A. Mission Description and Budget Item Justification

TIER II - This is a combined Navy (PE 0305204N-TCS) and Marine Corps (PE 0305234M) budget submission. The Tier II/UAS will provide persistent, Intelligence, Surveillance, and Reconnaissance (ISR) support for tactical level maneuver decisions and unit level force defense/force protection for Navy ships and Marine Corps land forces. This system will fill the ISR capability shortfalls identified by the Navy Small Tactical Unmanned Aircraft System (STUAS) and Marine Corps Tier II UAS efforts. Consisting of five air vehicles, two ground control stations, multiple payloads, and associated launch, recovery and support equipment, this system will support the Navy missions including building the Recognized Maritime Picture, Maritime Security Operations, Maritime Interdiction Operations, and support of Navy units operating from sea/shore and the Marine Corps close range (<50 nautical miles (nm)) UAS enabling enhanced decision-making and improved integration with ground schemes of maneuver. This submission is the Marine Corps portion of the program and has been coordinated with the Navy budget submission PE 0305204N.

B. Program Change Summary (\$ in Millions)

	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013 Base</u>	<u>FY 2013 OCO</u>	<u>FY 2013 Total</u>
Previous President's Budget	26.209	-	-	-	-
Current President's Budget	26.076	-	-	-	-
Total Adjustments	-0.133	-	-	-	-
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Congressional General Reductions Adjustments	-0.133	-	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305234M: (U)RQ-21A (STUASLO)	PROJECT 2298: <i>SMALL (LEVEL 0) TACTICAL UAS (STUALO)</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2298: <i>SMALL (LEVEL 0) TACTICAL UAS (STUALO)</i>	26.076	-	-	-	-	-	-	-	-	0.000	26.076
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

This project moved from PE 0305234M to 0305239M starting in FY12.

A. Mission Description and Budget Item Justification

The Small Tactical Unmanned Aircraft System (STUAS) is a combined Navy and Marine Corps program that provides persistent Intelligence, Surveillance, and Reconnaissance/Target Acquisition support for tactical level maneuver decisions and unit level force defense/force protection for Naval amphibious assault ships (multi-ship classes) and Navy and Marine land forces. This system will support Naval Missions such as building the Recognized Maritime Picture, Maritime Security Operations, Maritime Interdiction Operations, and provide support for Naval Units operating from sea/shore in Overseas Contingency Operations.

A STUAS system (Land-based or Ship-based) consists of five (5) air vehicles (AV), Ground Control Station(s) (GCS), Launch and Recovery equipment, and associated support equipment.

The STUAS system will continue to evolve and upgrade capabilities to satisfy capabilities shortfalls, new requirements, and reliability, maintainability, and safety issues. Upgraded capabilities may include Navy Command and Control integration, Signals Intelligence and Synthetic Aperture Radar payloads, weapons integration, Heavy Fuel Engine, Laser Designator and Digital Common Data Link.

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

	FY 2011	FY 2012	FY 2013
Title: Tier II UAS: Engineering and Technical Services	17.467	-	-
Articles:	0		
FY 2011 Accomplishments: Continued support for Government Engineering Technical Support, Logistics Support, Test and Evaluation, Contractor Support Services, Program Management Support and program related travel. Continued support of Systems Engineering Technical Review (SETR) events and successfully completed Systems Requirements Review, and Operational Assessment (OT-B1).			
Title: *Tier II UAS: Navy Program Management Support	8.609	-	-
Articles:	0		
FY 2011 Accomplishments:			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305234M: (U)RQ-21A (STUASL0)	PROJECT 2298: <i>SMALL (LEVEL 0) TACTICAL UAS (STUAL0)</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Continued the Engineering and Manufacturing Development efforts for the STUAS Unmanned Aircraft System (UAS) program. Successfully completed Systems Requirements Review and Operational Assessment (OT-B1).			
Accomplishments/Planned Programs Subtotals	26.076	-	-

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

Line Item	FY 2011	FY 2012	FY 2013	FY 2013	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Cost To	
			Base	OCO	Total					Complete	Total Cost
• APN/0444: NAVY STUAS/RQ-21A	28.200	0.000	9.593	0.000	9.593	9.685	9.840	0.000	0.000	Continuing	Continuing
• APN/0605: NAVY STUAS/RQ-21A Spares and Repair Parts	0.000	0.925	0.896	0.000	0.896	0.912	0.078	0.079	0.080	Continuing	Continuing
• PMC/4737: STUAS/RQ-21A	0.000	0.000	27.619	0.000	27.619	71.670	76.686	79.950	81.550	Continuing	Continuing
• PMC/4757: STUAS/RQ-21A	10.165	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	10.165
• RDTEN/0305234N: NAVY STUAS/RQ-21A	12.645	21.387	9.734	0.000	9.734	5.044	5.139	5.211	5.322	Continuing	Continuing
• RDTEN/0305239M: STUAS/RQ-21A	0.000	24.201	22.343	0.000	22.343	11.158	9.289	9.478	9.649	Continuing	Continuing

D. Acquisition Strategy

The program office expects to utilize a competitive acquisition approach to quickly field a capability with limited development. Spiral development will be utilized to field a system fully compliant with documented requirements.

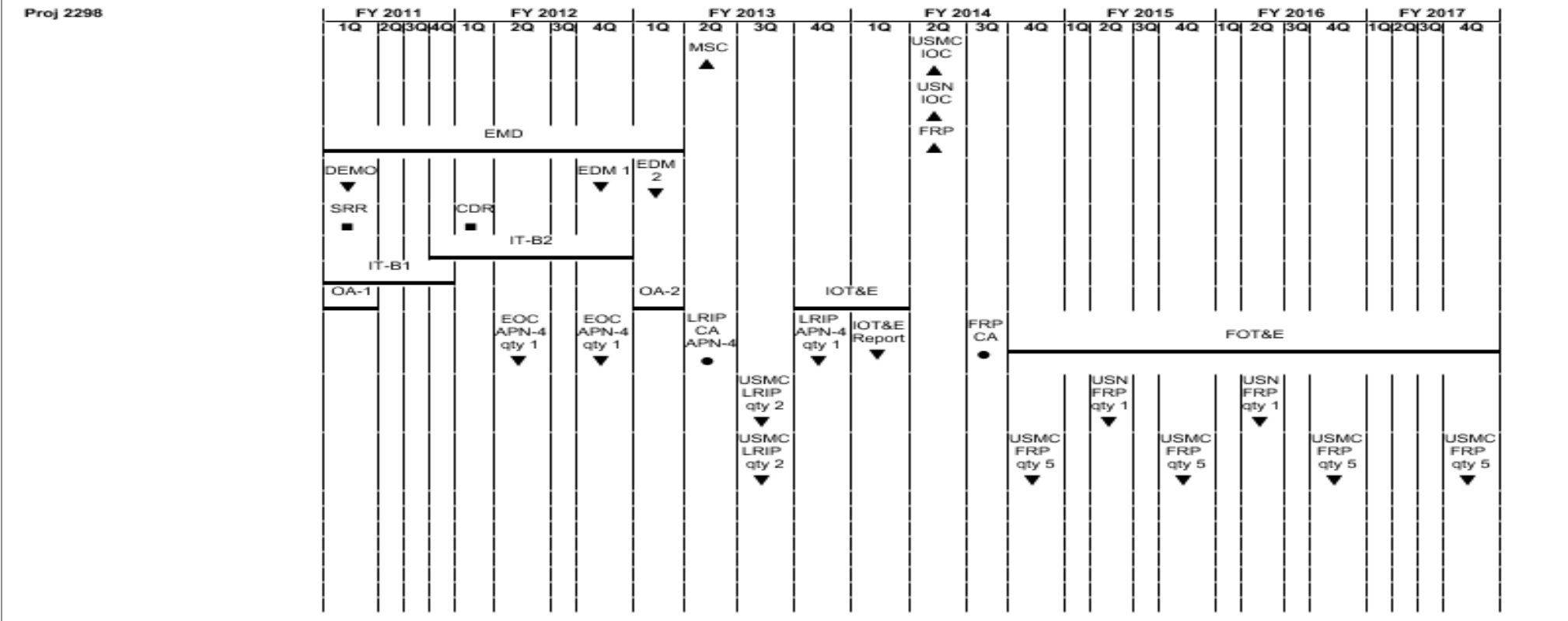
E. Performance Metrics

Down select to final solution.

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305234M: (U)RQ-21A (STUASL0)	PROJECT 2298: <i>SMALL (LEVEL 0) TACTICAL UAS (STUAL0)</i>
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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305234M: (U)RQ-21A (STUASL0)	PROJECT 2298: <i>SMALL (LEVEL 0) TACTICAL UAS (STUAL0)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2298				
Acquisition Milestones: Milestone C	2	2013	2	2013
Acquisition Milestones: Marine Corps IOC	2	2014	2	2014
Acquisition Milestones: USN IOC Landing Ship, Dock	2	2014	2	2014
Acquisition Milestones: Full Rate Production Decision Review	2	2014	2	2014
System Development: EMD	1	2011	1	2013
System Development: Demo System	1	2011	1	2011
System Development: EDM 1	4	2012	4	2012
System Development: EDM 2	1	2013	1	2013
System Development: System Requirements Review	1	2011	1	2011
System Development: CDR	1	2012	1	2012
Test and Evaluation: IT-B2	4	2011	4	2012
Test and Evaluation: IT-B1	1	2011	4	2011
Test and Evaluation: OTRR OA-1	1	2011	1	2011
Test and Evaluation: OTRR OA-2	1	2013	1	2013
Test and Evaluation: IOT&E	4	2013	1	2014
Test and Evaluation: IOT&E Report	1	2014	1	2014
Test and Evaluation: FOTE	4	2014	4	2017
Production: LRIP CA APN-4	2	2013	2	2013
Production: FRP Contract Award	3	2014	3	2014
Deliveries: EOC Delivery APN-4	3	2012	3	2012
Deliveries: EOC Delivery APN-4 (2)	4	2012	4	2012

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305234M: (U)RQ-21A (STUASL0)	PROJECT 2298: <i>SMALL (LEVEL 0) TACTICAL UAS</i> (STUAL0)
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Deliveries: LRIP Delivery APN-4	4	2013	4	2013
Deliveries: FRP Delivery 1	2	2015	2	2015
Deliveries: FRP Delivery 2	2	2016	2	2016
Deliveries: USMC RDTE LRIP Delivery	3	2013	3	2013
Deliveries: USMC PMC LRIP Delivery	3	2013	3	2013
Deliveries: USMC PMC FRP Delivery 1	4	2014	4	2014
Deliveries: USMC PMC FRP Delivery 2	4	2015	4	2015
Deliveries: USMC PMC FRP Delivery 3	4	2016	4	2016
Deliveries: USMC PMC FRP Delivery 4	4	2017	4	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305234N: <i>Small (LEVEL 0) Tactical UAS (STUASL0)</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	12.645	21.387	9.734	-	9.734	5.044	5.139	5.211	5.322	Continuing	Continuing
3192: <i>STUAS</i>	12.645	21.387	9.734	-	9.734	5.044	5.139	5.211	5.322	Continuing	Continuing

A. Mission Description and Budget Item Justification

Small Tactical Unmanned Aircraft System (STUAS) is a non-lethal joint tactical Unmanned Aerial Vehicle systems for DoD to provide Persistent Intelligence, Surveillance and Reconnaissance (ISR)/Target Acquisition which will fill the capability gap in ISR services available to Fleet and Marine forces.

B. Program Change Summary (\$ in Millions)

	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013 Base</u>	<u>FY 2013 OCO</u>	<u>FY 2013 Total</u>
Previous President's Budget	18.098	22.698	9.777	-	9.777
Current President's Budget	12.645	21.387	9.734	-	9.734
Total Adjustments	-5.453	-1.311	-0.043	-	-0.043
• Congressional General Reductions	-	-0.011			
• Congressional Directed Reductions	-	-1.300			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	-	-	-0.067	-	-0.067
• Rate/Misc Adjustments	-	-	0.024	-	0.024
• Congressional General Reductions Adjustments	-0.065	-	-	-	-
• Congressional Directed Reductions Adjustments	-5.388	-	-	-	-

Change Summary Explanation

Schedule:

STUAS - Updated delivery schedule for production systems to match procurement budget exhibit.

Updated schedule to reflect a delay in Engineering and Maintenance Development phase.

Technical:

STUAS - Updated quantity of air vehicles from four per system to five per system to reflect the actual system configuration post contract award in July 2010.

Changed the type of systems procured in FY12 from Low Rate Initial Production (LRIP) to Early Operational Capability (EOC). The systems were inadvertently designated as LRIP vice EOC in previous submission. EOC provides an early/interim ISR capability.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305234N: <i>Small (LEVEL 0) Tactical UAS (STUASLO)</i>	PROJECT 3192: <i>STUAS</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
3192: <i>STUAS</i>	12.645	21.387	9.734	-	9.734	5.044	5.139	5.211	5.322	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Small Tactical Unmanned Aircraft System (STUAS) is a combined Navy and Marine Corps program that provides Persistent Intelligence, Surveillance, and Reconnaissance/Target Acquisition support for tactical level maneuver decisions and unit level force defense/force protection for Naval amphibious assault ships (multi-ship classes) and Navy and Marine land forces. This system will support Naval Missions such as building the Recognized Maritime Picture, Maritime Security Operations, Maritime Interdiction Operations, and provide support for Naval Units operating from sea/shore in Overseas Contingency Operations. Costs are shared between the two services.

A STUAS system (Land-based or Ship-based) consists of five (5) air vehicles, Ground Control Station, Launch and Recovery equipment, and associated support equipment.

The STUAS system will continue to evolve and upgrade capabilities to satisfy capabilities shortfalls, new requirements, and reliability, maintainability, and safety issues. Upgraded capabilities may include Navy Command and Control integration, Signals Intelligence and Synthetic Aperture Radar payloads, weapons integration, Heavy Fuel Engine, Laser Designator and Digital Common Data Link.

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

	FY 2011	FY 2012	FY 2013
<p>Title: Engineering and Manufacturing Development</p> <p align="right">Articles:</p> <p>Description: Prime System Contractor will be responsible for overall system development and performance as well as systems engineering, integrated logistics support, and associated management activities.</p> <p>FY 2011 Accomplishments: Continued the Engineering and Manufacturing Development efforts for the STUAS Unmanned Aircraft System (UAS) program.</p> <p>FY 2012 Plans: Continue the Engineering and Manufacturing Development efforts for the STUAS UAS program.</p>	<p>7.550</p> <p>0</p>	<p>12.100</p> <p>0</p>	<p>-</p> <p>0</p>
<p>Title: Engineering and Technical Services</p> <p align="right">Articles:</p> <p>Description: Provides for the Government Engineering Technical Support, Logistics Support, Test and Evaluation, other Government Support, Contractor Support Services, Program Management Support and program related travel.</p>	<p>5.095</p> <p>0</p>	<p>9.287</p> <p>0</p>	<p>9.734</p> <p>0</p>

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305234N: <i>Small (LEVEL 0) Tactical UAS (STUASL0)</i>	PROJECT 3192: <i>STUAS</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
<p><i>FY 2011 Accomplishments:</i> Provided support for Government Engineering Technical Support, Logistics Support, Test and Evaluation, Contractor Support Services, Program Management Support and program related travel.</p> <p><i>FY 2012 Plans:</i> Continue support for Government Engineering Technical Support, Logistics Support, Test and Evaluation, Contractor Support Services, Program Management Support and program related travel.</p> <p><i>FY 2013 Plans:</i> Continue support for Government Engineering Technical Support, Logistics Support, Test and Evaluation, other Government Support, Contractor Support Services, Program Management Support and program related travel.</p>			
Accomplishments/Planned Programs Subtotals	12.645	21.387	9.734

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

<u>Line Item</u>	FY 2011	FY 2012	FY 2013	FY 2013	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	<u>Cost To Complete</u>	<u>Total Cost</u>
			<u>Base</u>	<u>OCO</u>	<u>Total</u>						
• RDT&E,N/0305234M: <i>Tier II UAS</i>	26.076	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	44.761
• APN-4/044400: <i>STUASL0 (Tier II)</i>	28.200	0.000	9.593	0.000	9.593	9.685	9.840	0.000	0.000	0.000	57.318
• APN-6/060510: <i>STUASL0 (Tier II)</i>	0.000	0.925	0.896	0.000	0.896	0.912	0.078	0.079	0.080	0.000	2.970
• PMC-475700: <i>Tier II UAS</i>	10.165	0.000	27.619	0.000	27.619	71.670	76.686	79.950	81.550	Continuing	Continuing
• RDT&E,MC/0305239M: <i>RQ-21A</i>	0.000	24.201	22.343	0.000	22.343	11.158	9.289	9.478	9.639	Continuing	Continuing

D. Acquisition Strategy
The program office has utilized a competitive acquisition approach for award of the Engineering and Manufacturing Development effort to field a capability which meets threshold requirements. Successfully complete Initial Operational Test and Evaluation and achieve Initial Operational Capability (IOC) and Full Rate Production.

E. Performance Metrics
Attainment of STUAS IOC in accordance with approved schedule.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305234N: <i>Small (LEVEL 0) Tactical UAS (STUASLO)</i>	PROJECT 3192: <i>STUAS</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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/CPHF	Insitu, Inc.:Bingen, WA	15.035	12.100	Nov 2011	-		-		-	2.100	29.235	29.235
Subtotal			15.035	12.100		-		-		-	2.100	29.235	29.235

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	NAWC-AD:Patuxent River, MD	1.972	1.602	Dec 2011	0.832	Dec 2012	-		0.832	Continuing	Continuing	Continuing
Training Support	WR	TSD:Orlando, FL	1.299	0.963	Dec 2011	0.624	Dec 2012	-		0.624	Continuing	Continuing	Continuing
Software Engineering Support	WR	NAWC-WD:China Lake, CA	2.121	2.093	Dec 2011	1.756	Dec 2012	-		1.756	Continuing	Continuing	Continuing
Subtotal			5.392	4.658		3.212		-		3.212			

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	OPTEVFOR:Norfolk, VA	1.262	0.757	Jan 2012	2.200	Dec 2012	-		2.200	0.000	4.219	4.219
Simulation and Modeling	MIPR	JTC/SIL:Redstone Arsenal, AL	1.136	0.500	Mar 2012	0.500	Mar 2013	-		0.500	Continuing	Continuing	Continuing
Subtotal			2.398	1.257		2.700		-		2.700			

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	MIPR	DTIC:FT. Belvoir, VA	1.306	0.588	Jan 2012	0.534	Jan 2013	-		0.534	Continuing	Continuing	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305234N: <i>Small (LEVEL 0) Tactical UAS (STUASLO)</i>	PROJECT 3192: <i>STUAS</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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	5.499	2.095	Dec 2011	2.551	Dec 2012	-		2.551	Continuing	Continuing	Continuing
Program Management Support	C/CPFF	Ausley:Patuxent River, MD	1.380	0.654	Dec 2011	0.687	Dec 2012	-		0.687	0.000	2.721	2.721
Travel	WR	Various:Various	0.075	0.035	Dec 2011	0.050	Nov 2012	-		0.050	Continuing	Continuing	Continuing
Subtotal			8.260	3.372		3.822		-		3.822			

Remarks
Travel contract type is TO.

	Total Prior Years Cost	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	31.085	21.387	9.734	-	9.734			

Remarks

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305234N: <i>Small (LEVEL 0) Tactical UAS (STUASL0)</i>	PROJECT 3192: <i>STUAS</i>
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
STUAS				
Acquisition Milestones: Milestones: Milestone C	2	2013	2	2013
Acquisition Milestones: Milestones: USMC Initial Operational Capability (IOC)	2	2014	2	2014
Acquisition Milestones: Milestones: USN IOC Landing Ship, Dock	2	2014	2	2014
Acquisition Milestones: Milestones: Full Rate Production Decision Review	2	2014	2	2014
System Development: Hardware and Software Development: Engineering and Manufacturing Development	1	2011	1	2013
System Development: Hardware and Software Development: Demo System	1	2011	1	2011
System Development: Hardware and Software Development: Engineering Design Model (EDM) 1	4	2012	4	2012
System Development: Hardware and Software Development: EDM 2	1	2013	1	2013
System Development: Reviews: System Requirements Review	1	2011	1	2011
System Development: Reviews: Critical Design Review	1	2012	1	2012
Test & Evaluation: Technical Evaluation: IT-B1	1	2011	4	2011
Test & Evaluation: Technical Evaluation: IT-B2	4	2011	4	2012
Test & Evaluation: Operational Evaluation: Operational Test and Readiness Review (OTRR) OA-1	1	2011	2	2011
Test & Evaluation: Operational Evaluation: OTRR OA-2	1	2013	1	2013
Test & Evaluation: Operational Evaluation: Initial Operational Test & Evaluation (IOT&E)	4	2013	1	2014
Test & Evaluation: Operational Evaluation: IOT&E Report	1	2014	1	2014
Test & Evaluation: Operational Evaluation: Follow On Test and Evaluation	4	2014	4	2017
Production Milestones: Contract Awards: Low Rate Initial Production (LRIP) CA APN-4	2	2013	2	2013

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305234N: <i>Small (LEVEL 0) Tactical UAS (STUASL0)</i>	PROJECT 3192: <i>STUAS</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Production Milestones: Contract Awards: Full Rate Production (FRP) Contract Award	3	2014	3	2014
Deliveries: EOC Delivery 1 APN-4	3	2012	3	2012
Deliveries: EOC Delivery 2 APN-4	4	2012	4	2012
Deliveries: LRIP Delivery APN-4	4	2013	4	2013
Deliveries: FRP Delivery 1	2	2015	2	2015
Deliveries: FRP Delivery 2	2	2016	2	2016

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305237N: <i>Medium Range Maritime UAS</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	-	15.000	-	-	-	-	-	-	-	0.000	15.000
2770: <i>Medium-Range Maritime Unmanned Aerial System</i>	-	15.000	-	-	-	-	-	-	-	0.000	15.000

A. Mission Description and Budget Item Justification

Note: FY11 efforts are budgeted under PE 0305204N, Project Unit 2501 (10.001M).

Medium-Range Maritime Unmanned Aerial System (MRMUAS) Unmanned Aerial Vehicle is a Joint Military Intelligence Program.

The MRMUAS commenced under PE 0305204N. PE 0305237N was established to fund the Technology Development and Engineering and Manufacturing Development phases of the MRMUAS program. The MRMUAS goal was to provide persistent, sea-based, airborne, real-time and near-real-time Intelligence, Surveillance, and Reconnaissance data to Navy and Special Operations Forces.

The Navy and Army are cooperating in the Analysis of Alternatives and requirements development.

During the FY13 budget process, fiscal constraints forced Navy to terminate the MRMUAS program and zeroize the funding in FY13 and beyond. Navy terminated MRMUAS to focus on CONOPS development and drafting a Capability Development Document that will support the Navy's Next Generation of Seabased Vertical Take Off and Landing Unmanned Aerial Systems, and to develop technologies that can be used to improve existing Navy sea-based unmanned systems such as the Vertical Take-off and Landing Tactical Unmanned Air Vehicle and Cargo Unmanned Aerial Systems.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305237N: <i>Medium Range Maritime UAS</i>
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B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	-	15.000	160.900	-	160.900
Current President's Budget	-	15.000	-	-	-
Total Adjustments	-	-	-160.900	-	-160.900
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Program Adjustments	-	-	-161.167	-	-161.167
• Rate/Misc Adjustments	-	-	0.267	-	0.267

Change Summary Explanation

Technical: Not applicable.

Schedule:

- Removed FY13, FY14 and FY15 Gate and Milestone Reviews.
- Removed System Engineering Development Prototype Phase and Reviews.
- Removed Test and Evaluation Development Test and Reviews.
- Adjusted Analysis of Alternatives from 2Q FY12 to 3Q FY12

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0305237N: <i>Medium Range Maritime UAS</i>				PROJECT 2770: <i>Medium-Range Maritime Unmanned Aerial System</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2770: <i>Medium-Range Maritime Unmanned Aerial System</i>	-	15.000	-	-	-	-	-	-	-	0.000	15.000
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

Note: FY11 efforts are budgeted under PE 0305204N, Project Unit 2501 (10.001M).

A. Mission Description and Budget Item Justification

Medium-Range Maritime Unmanned Aerial System (MRMUAS) Unmanned Aerial Vehicle is a Joint Military Intelligence Program.

The MRMUAS commenced under PE 0305204N. PE 0305237N was established to fund the Technology Development and Engineering and Manufacturing Development phases of the MRMUAS program. The MRMUAS goal was to provide persistent, sea-based, airborne, real-time and near-real-time Intelligence, Surveillance, and Reconnaissance data to Navy and Special Operations Forces.

The Navy and Army are cooperating in the Analysis of Alternatives and requirements development.

During the FY13 budget process, fiscal constraints forced Navy to terminate the MRMUAS program and zeroize the funding in FY13 and beyond. Navy terminated MRMUAS to focus on CONOPS development and drafting a Capability Development Document (CDD) that will support the Navy's Next Generation of Seabased Vertical Take Off and Landing Unmanned Aerial Systems, and to develop technologies that can be used to improve existing Navy sea-based unmanned systems such as the Vertical Take-off and Landing Tactical Unmanned Air Vehicle and Cargo Unmanned Aerial Systems.

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

	FY 2011	FY 2012	FY 2013
Title: Product Development	-	9.320	-
Articles:		0	
FY 2012 Plans: Complete MRMUAS Analysis of Alternatives (AoA) and brief results. Complete drafting/updating of MRMUAS Concept of Operations. Coordinate with AoA and Trade Studies to incorporate latest concepts. Complete execution of up to five (5) studies and analysis contracts in support of MRMUAS concept refinement. Data received from these contracts will be used to support AoA analyses and drafting of initial Key Performance Parameters/Key System Attributes for the MRMUAS CDD.			
Title: Management Services	-	5.680	-
Articles:		0	
FY 2012 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305237N: <i>Medium Range Maritime UAS</i>	PROJECT 2770: <i>Medium-Range Maritime Unmanned Aerial System</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Complete engineering management, program technical management, and management support for the MRMUAS system. Continue preparation of Milestone A activities to include completion of draft Capability Development Document (CDD) to support next generation Navy Vertical Take Off and Landing (VTOL) Unmanned Aerial Systems (UAS). Complete program office personnel travel and contract support services.			
Accomplishments/Planned Programs Subtotals	-	15.000	-

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

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• RDTEN, 0305204N: <i>MEMUAS</i>	9.868	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	9.868

D. Acquisition Strategy
Initiated industry trade studies and Analysis of Alternatives (AOA) under FY11 Medium Endurance Marine Unmanned Aerial System funding. Conduct full and open competition for up to five (5) Trade Studies and analysis contracts with potential Medium-Range Maritime Unmanned Aerial System vendors. Navy will use the AoA, Concept of Operations (CONOPS), and draft CDD to develop a Next Generation Seabased VTOL UAS Acquisition Strategy.

E. Performance Metrics
Successful completion of AoA. Successful completion of Trade Studies. Successful development of draft CONOPS and draft CDD.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305237N: <i>Medium Range Maritime UAS</i>	PROJECT 2770: <i>Medium-Range Maritime Unmanned Aerial System</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Analysis of Alternatives Support	SS/FFP	Systems Planning and Analysis:Alexandria, VA	-	1.110	Mar 2012	-		-		-	0.000	1.110	1.110
Analysis of Alternatives	WR	NAWCAD:Patuxent River, MD	-	1.330	Jan 2012	-		-		-	0.000	1.330	
CONOPS Development	TBD	TBD:TBD	-	0.440	Mar 2012	-		-		-	0.000	0.440	
Study Contracts (Up to 5)	TBD	TBD:TBD	-	6.440	May 2012	-		-		-	0.000	6.440	6.440
Subtotal			-	9.320		-		-		-	0.000	9.320	

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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:Patuxent River, MD	-	3.880	Jan 2012	-		-		-	0.000	3.880	
Program Management Support	Various	Various:Various	-	1.570	Jan 2012	-		-		-	0.000	1.570	
Travel	WR	NAVAIR:Patuxent River, MD	-	0.230	Jan 2012	-		-		-	0.000	0.230	
Subtotal			-	5.680		-		-		-	0.000	5.680	

	Total Prior Years Cost	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		-	15.000	-	-	-	15.000	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305237N: <i>Medium Range Maritime UAS</i>	PROJECT 2770: <i>Medium-Range Maritime Unmanned Aerial System</i>
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MRMUAS	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	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		Gate 1 ▲	MDD ◆				Gate 2 ▲																					
System Engineering Development																												
Analysis of Alternatives			AOA																									
Design Studies			DS																									

2013PB - 0305237N - 2770 Note: FY11 efforts are budgeted in PE 0305204N, PU 2501

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305237N: <i>Medium Range Maritime UAS</i>	PROJECT 2770: <i>Medium-Range Maritime Unmanned Aerial System</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
MRMUAS				
Acquisition Milestones: Milestones: Gate 1	2	2011	2	2011
Acquisition Milestones: Milestones: Material Development Decision	3	2011	3	2011
Acquisition Milestones: Milestones: Gate 2	3	2012	3	2012
System Engineering Development: Analysis of Alternatives: Analysis of Alternatives	3	2011	3	2012
System Engineering Development: Design Studies: Design Studies	3	2011	4	2012

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305239M: (U)RQ-21A
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	-	24.201	22.343	-	22.343	11.158	9.289	9.478	9.649	Continuing	Continuing
2298: <i>SMALL (LEVEL 0) TACTICAL UAS (STUALO)</i>	-	24.201	22.343	-	22.343	11.158	9.289	9.478	9.649	Continuing	Continuing

Note

The Tier II program is in PE 0305234M, Project C2272 in FY10. The Tier II program is in PE 0305234M, Project C2298 in FY11. The Tier II program was realigned to PE 0305239M, Project C2298 in FY12 and out. The Navy PE is 0305234N.

A. Mission Description and Budget Item Justification

TIER II - This is a combined Navy (PE 0305204N-TCS) and Marine Corps (PE 0305239M) budget submission. The Tier II/UAS will provide persistent, Intelligence, Surveillance, and Reconnaissance (ISR) support for tactical level maneuver decisions and unit level force defense/force protection for Navy ships and Marine Corps land forces. This system will fill the ISR capability shortfalls identified by the Navy Small Tactical Unmanned Aircraft System (STUAS) and Marine Corps Tier II UAS efforts. Consisting of five air vehicles, two ground control stations, multiple payloads, and associated launch, recovery and support equipment, this system will support the Navy missions including building the Recognized Maritime Picture, Maritime Security Operations, Maritime Interdiction Operations, and support of Navy units operating from sea/shore and the Marine Corps close range (<50 nautical miles (nm)) UAS enabling enhanced decision-making and improved integration with ground schemes of maneuver. This submission is the Marine Corps portion of the program and has been coordinated with the Navy budget submission PE 0305204N.

B. Program Change Summary (\$ in Millions)

	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013 Base</u>	<u>FY 2013 OCO</u>	<u>FY 2013 Total</u>
Previous President's Budget	-	26.301	22.343	-	22.343
Current President's Budget	-	24.201	22.343	-	22.343
Total Adjustments	-	-2.100	-	-	-
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-2.100			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	-	-	-	-	-

Change Summary Explanation

Technical: The FY12 to FY13 decrease reflects the Small Tactical Unmanned Aircraft System (STUAS) TIER II (RQ-21A) entry into MS C phase in FY 13.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0305239M: (U)RQ-21A				PROJECT 2298: <i>SMALL (LEVEL 0) TACTICAL UAS (STUALO)</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2298: <i>SMALL (LEVEL 0) TACTICAL UAS (STUALO)</i>	-	24.201	22.343	-	22.343	11.158	9.289	9.478	9.649	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

This project moved from PE 0305234M to 0305239M starting in FY12.

A. Mission Description and Budget Item Justification

The Small Tactical Unmanned Aircraft System (STUAS) is a combined Navy and Marine Corps program that provides Persistent Intelligence, Surveillance, and Reconnaissance/Target Acquisition support for tactical level maneuver decisions and unit level force defense/force protection for Naval amphibious assault ships (multi-ship classes) and Navy and Marine land forces. Costs are shared between the two services. This system will support Naval Missions such as building the Recognized Maritime Picture, Maritime Security Operations, Maritime Interdiction Operations, and provide support for Naval Units operating from sea/shore in Overseas Contingency Operations.

A STUAS system (Land-based or Ship-based) consists of five (5) air vehicles (AV), Ground Control Station(s) (GCS), Launch and Recovery equipment, and associated support equipment.

The STUAS system will continue to evolve and upgrade capabilities to satisfy capabilities shortfalls, new requirements, and reliability, maintainability, and safety issues. Upgraded capabilities may include Navy Command and Control integration, Signals Intelligence and Synthetic Aperture Radar payloads, weapons integration, Heavy Fuel Engine, Laser Designator and Digital Common Data Link.

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

	FY 2011	FY 2012	FY 2013
Title: STUAS: Product Development	-	11.400	11.801
Articles:		0	0
FY 2012 Plans: Continue the Engineering and Manufacturing Development efforts for the STUAS UAS program. Efforts include continued Technical and Operational Evaluation. Continue support for Government Engineering Technical Support, Logistics Support, Test and Evaluation, Contractor Support Services, Program Management Support and program related travel.			
FY 2013 Plans: Complete the Engineering and Manufacturing Development efforts for the STUAS UAS program. Procurement of two (2) LRIP systems.			
Title: STUAS: Program Management	-	12.801	10.542

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305239M: (U)RQ-21A	PROJECT 2298: <i>SMALL (LEVEL 0) TACTICAL UAS (STUAL0)</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
Articles:		0	0
FY 2012 Plans: Provides for the Government Engineering Technical Support, Logistics Support, Test and Evaluation, other Government Support, Contractor Support Services, Program Management Support, and program related travel via NAWC Pax River.			
FY 2013 Plans: Continue support for Government Engineering Technical Support, Logistics Support, Test and Evaluation, other Government Support, Contractor Support Services, Program Management Support, and program related travel via NAWC Pax River.			
Accomplishments/Planned Programs Subtotals	-	24.201	22.343

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

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• APN/0444: NAVY STUAS/RQ-21A	28.200	0.000	9.593	0.000	9.593	9.685	9.840	0.000	0.000	Continuing	Continuing
• APN/0605: NAVY STUAS/RQ-21A Spares and Repair Parts	0.000	0.925	0.896	0.000	0.896	0.912	0.078	0.079	0.080	Continuing	Continuing
• PMC/4737: STUAS/RQ-21A	0.000	0.000	27.619	0.000	27.619	71.670	76.686	79.950	81.550	Continuing	Continuing
• PMC/4757: STUAS/RQ-21A	10.165	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	10.165
• RDTEN/0305234M: STUAS/RQ-21A	26.076	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	26.076
• RDTEN/0305234N: NAVY STUAS/RQ-21A	12.645	21.387	9.734	0.000	9.734	5.044	5.139	5.211	5.322	Continuing	Continuing

D. Acquisition Strategy

The program office has utilized a competitive acquisition approach for award of the Engineering and Manufacturing Development effort to field a capability which meets threshold requirements. Utilize LRIP test articles to successfully complete IOT&E and achieve Initial Operational Capability (IOC) and Full Rate Production.

E. Performance Metrics

Attainment of STUAS IOC in accordance with approved schedule.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305239M: (U)RQ-21A	PROJECT 2298: <i>SMALL (LEVEL 0) TACTICAL UAS (STUAL0)</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
STUAS	C/FPIF	Insitu, Inc:Bingen, WA	-	11.400	Nov 2011	11.801	Nov 2012	-		11.801	0.000	23.201	
Subtotal			-	11.400		11.801		-		11.801	0.000	23.201	

Remarks
Funding procures two (2) LRIP systems.

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
STUAS	Various	NAWCAD:Patuxent River, MD	-	12.801	Dec 2011	10.542	Dec 2012	-		10.542	0.000	23.343	
Subtotal			-	12.801		10.542		-		10.542	0.000	23.343	

Remarks
Funding will be provided to NAWCAD for development of the core STUAS program requirements established at MS B.

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	24.201		22.343		-		22.343	0.000	46.544	

Remarks

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305239M: (U)RQ-21A	PROJECT 2298: <i>SMALL (LEVEL 0) TACTICAL UAS (STUAL0)</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2298				
Acquisition Milestones: Milestones:: Milestone C	2	2013	2	2013
Acquisition Milestones: Milestones:: Marine Corps IOC	2	2014	2	2014
Acquisition Milestones: Milestones:: USN IOC Landing Ship, Dock	2	2014	2	2014
Acquisition Milestones: Milestones:: Full Rate Production Decision Review	2	2014	2	2014
System Development: Hardware and Software Development:: Engineering and Manufacturing Development	1	2011	1	2013
System Development: Hardware and Software Development:: Demo System	1	2011	1	2011
System Development: Hardware and Software Development:: Engineering Design Model (EDM) 1	4	2012	4	2012
System Development: Hardware and Software Development:: EDM 2	1	2013	1	2013
System Development: Reviews:: System Requirements Review	1	2011	1	2011
System Development: Reviews:: Critical Design Review	1	2012	1	2012
Test & Evaluation: Technical Evaluation:: IT-B2	4	2011	4	2012
Test & Evaluation: Technical Evaluation:: IT-B1	1	2011	4	2011
Test & Evaluation: Operational Evaluation:: Operational Test and Readiness Review (OTRR) OA-1	1	2011	1	2011
Test & Evaluation: Operational Evaluation:: OTRR OA-2	1	2013	1	2013
Test & Evaluation: Operational Evaluation:: Initial Operational Test & Evaluation (IOT&E)	4	2013	1	2014
Test & Evaluation: Operational Evaluation:: IOT&E Report	1	2014	1	2014
Test & Evaluation: Operational Evaluation:: Follow On Test and Evaluation	4	2014	4	2017

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0305239M: (U)RQ-21A	PROJECT 2298: <i>SMALL (LEVEL 0) TACTICAL UAS (STUAL0)</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Production Milestones: Contract Awards:: Low Rate Initial Production (LRIP) CA APN-4	2	2013	2	2013
Production Milestones: Contract Awards:: Full Rate Production (FRP) Contract Award	3	2014	3	2014
Deliveries:: EOC Delivery APN-4	3	2012	3	2012
Deliveries:: EOC Delivery APN-4 (2)	4	2012	4	2012
Deliveries:: LRIP Delviery APN-4	4	2013	4	2013
Deliveries:: FRP Delivery 1	2	2015	2	2015
Deliveries:: FRP Delivery 2	2	2016	2	2016
Deliveries:: USMC RDT&E LRIP Delivery	3	2013	3	2013
Deliveries:: USMC PMC LRIP Delivery	3	2013	3	2013
Deliveries:: USMC PMC FRP Delivery 1	4	2014	4	2014
Deliveries:: USMC PMC FRP Delivery 2	4	2015	4	2015
Deliveries:: USMC PMC FRP Delivery 3	4	2016	4	2016
Deliveries:: USMC PMC FRP Delivery 4	4	2017	4	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE										
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	PE 0308601N: <i>Modeling & Simulation Support</i>										
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	7.963	8.292	5.908	-	5.908	5.503	5.489	5.542	5.766	Continuing	Continuing
2222: <i>Modeling & Simulation</i>	7.963	8.292	5.908	-	5.908	5.503	5.489	5.542	5.766	Continuing	Continuing

A. Mission Description and Budget Item Justification

This Program Element addresses projects under the Navy Modeling and Simulation (M&S) Office. It supports technical and management initiatives directed by Congress, Department of Defense (DOD), Secretary of the Navy (SECNAV), and Chief of Naval Operations (CNO) with the aim of bringing organization and focus to the development and use of M&S throughout the Navy and DoD. It provides a central agency for the formulation and implementation of policy and guidance in M&S, and represents Navy interests in Joint and other agency initiatives. It funds efforts to define and coordinate the corporate Navy M&S policy and guidance to evolve an interoperable and reusable core M&S capability consistent with the M&S technical framework prescribed by DOD. Efforts are organized around four product areas: (1) Engineering Studies and Analysis: identifies and measures the relevance of existing and emerging standards, technologies and services necessary to guide Navy M&S use; (2) Products and Services: promotes the policy, standards and technologies necessary to guide more efficient development and use of M&S across the Navy, including development and management of the Navy Modeling and Simulation Information Service (NMSIS); (3) M&S Quality Assurance Program: establishes and manages a disciplined process of model Verification, Validation and Accreditation (VV&A); and (4) Simulation Experiments: supports M&S use in Navy exercises and experiments across a wide variety of warfighting and supporting communities. Specifically, Simulation Experiments integrate appropriate models and simulations into Fleet exercises to test, validate and evaluate for possible transition to operationally relevant M&S products in support of Navy operations, training, acquisition, analysis and assessment.

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	8.158	8.292	8.438	-	8.438
Current President's Budget	7.963	8.292	5.908	-	5.908
Total Adjustments	-0.195	-	-2.530	-	-2.530
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.154	-			
• Program Adjustments	-	-	-2.530	-	-2.530
• Congressional General Reductions Adjustments	-0.041	-	-	-	-

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0308601N: <i>Modeling & Simulation Support</i>
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Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0308601N: <i>Modeling & Simulation Support</i>	PROJECT 2222: <i>Modeling & Simulation</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2222: <i>Modeling & Simulation</i>	7.963	8.292	5.908	-	5.908	5.503	5.489	5.542	5.766	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 addresses critical coordination of Navy M&S efforts, integrates individual programs into a coherent whole, promotes reuse of resources, and aligns Navy efforts with Joint programs. It develops and maintains a comprehensive repository of models, simulations and authoritative data to support broad-based Navy requirements. It promotes reusability through the Quality Assurance process for models, simulations and data, and enhances interoperability by coordinating and reviewing Navy's transition to DoD-mandated standards for distributed simulations. The project participates in Fleet exercise experiments, distributed simulations and demonstrations such as Limited Objective Experiments (LOE), Virtual at Sea Training (VAST), and Virtual Missile Range (VMR).

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

	FY 2011	FY 2012	FY 2013
Title: ENGINEERING STUDIES AND ANALYSIS	3.775	3.885	3.474
Articles:	0	0	0
<p>Description: This activity conducts engineering studies and analyses aimed at determining the feasibility and applicability of proposed standards or technical approaches to Navy M&S, and investigate Service-unique requirements for standards or guidance. Individual efforts focus on developing or evaluating approaches to optimize training, assessments and acquisition functional/mission objectives through more efficient development and use of M&S. This activity develops methodologies and standards that will result in model and data reusability and interoperability through the formulation of a technical framework. These standards will support the full range of architecture and engineering design and analysis requirements across the Navy. This activity also provides an M&S degree program through the Naval Postgraduate School, Modeling Virtual Environments and Simulation (MOVES) curriculum.</p> <p>FY 2011 Accomplishments:</p> <ul style="list-style-type: none"> - Continued to work with the MOVES Institute and the MOVES degree program to provide military relevant theses topics for research. Anticipate 15 Masters Degrees (8 Navy/Marine) and two Ph.D. Degrees (0 Navy/Marine). - Continued to analyze Navy models and simulations for enterprise level interoperability and reuse gaps. Established a plan to mitigate gaps identified through the employment of structural metadata and modular software methodologies and standards. - Continued to develop the M&S interoperability Initiative which is a draft methodology and standards for a technical framework to improve tractability, interoperability, and reuse for the development of future models and simulations. Demonstrated a capability to exchange M&S Structural data with architectural data. <p>FY 2012 Plans:</p>			

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<ul style="list-style-type: none"> - Establish interface standards and requirements for the virtual environment in order to support interoperability with external M&S applications and to promote rapid development through a common understanding of the engineering trade space. - Develop Irregular Warfare (IW) modeling techniques to support training, experimentation, inelligence, and operational analysis users. These techniques will also be used to elucidate characteristics and limitations of IW data. - Continue other FY-11 efforts. <p>FY 2013 Plans: Continue all efforts of FY-12.</p>				
Title: PRODUCT AND SERVICES		1.768	1.786	1.833
		Articles: 0	0	0
<p>Description: This activity supports development of common services, tools, databases and standards to ensure the integration and connectivity of M&S products employed in Naval assessments, in training and acquisition, and among operational communities. It manages and maintains the Navy M&S Information System (NMSIS), as a central M&S information resource to support informed M&S investment decision making across Navy. It provides essential planning and coordination of M&S efforts with other Services, the Office of Secretary of Defense (OSD), the Joint Staff, and other agencies to develop policies and procedures necessary for M&S visibility and potential reuse across DoD. It provides updates to the DoD Enterprise Catalog, M&S Master Plan, and M&S Investment Strategy.</p> <p>FY 2011 Accomplishments:</p> <ul style="list-style-type: none"> - Continued to promote and enhance state-of-practice and technology within the Navy M&S community. - Continued the development, servicing and use of NMSIS as directed under applicable DoD Directives, SECNAVINST, and OPNAVINST. - Appointed Chairchair of the NATO M&S Data Visibility effort, ET-100 M&S Resource Discovery. ET-100 is the technical activity for developing discoverable metadata at the NATO level and includes participants from France, Germany, Turkey, and Canada. - As part of DoD M&S Coordination Office funded M&S Alliance Cooperation efforts successfully arranged a memorandum of understanding (MOU) between DISA and the Korean military which effectively allows sharing of M&S Metadata through DISA's Net-Centric Enterprise Services (NCES). - DoDD 8320.02-G, Guidance for Implementing Net-Centric Data Sharing, April 12, 2006 has been updated to 8320.02-M to support a more bottom-up versus top-down approach to making data discoverable. - Published the Navy M&S Resource Registry (MSRR) to the NCES Enterprise Catalog. - Established an M&S Forum across NAVY SYSCOMs to coordinate, advise, inform, advocate, and implement M&S plans, strategies, goals, objectives and activities across the M&S acquisition community. - Delivered ASN(RDA) M&S Road Map document Components, Structure, and Development Approach. 				

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<p>- Provided input on DoD / M&S CO Products including: Corporate and Crosscutting Business Plan (and Objectives), Net-Centric Environment Pilot Project Report, and Report on DoD Joint Wargaming Simulation Management.</p> <p>FY 2012 Plans: Continue all efforts of FY-2011</p> <p>FY 2013 Plans: Continue all efforts of FY-2012</p>				
<p>Title: M&S QUALITY ASSURANCE PROGRAM</p> <p>Articles:</p> <p>Description: This activity implements and manages the Modeling and Simulation (M&S) Quality Assurance development of the VV&A process and guidelines for modeling, simulation, and data. It reviews both new and legacy M&S VV&A plans and reports, and develops and maintains the Naval M&S VV&A repository. It establishes and implements a VV&A training curriculum for developers and accreditors.</p> <p>FY 2011 Accomplishments:</p> <ul style="list-style-type: none"> - Responded to VV&A Help Desk inquiries. - Provided VV&A information, advice, and assistance which included supported to the Assistant Secretary of the Navy (Energy, Installations and Environment) for VV&A of the Navy Acoustic Effects Model (NAEMO). - Collected VV&A documents for archiving, discovery, and sharing. - Drafted updates to SECNAVINST 5200.40 to comply with DoD Instruction 5000.61. - Chaired the DoD Acquisition M&S Working Group's VV&A Subcommittee - Researched M&S Standards issues and represented Navy in votes on NATO Standard Agreements and other M&S documents - Refined Draft SECNAVINSTs on M&S VV&A (5200.40A) and M&S Management(5200.38A) <p>FY 2012 Plans:</p> <ul style="list-style-type: none"> - Complete the update of, staff, and promulgate SECNAVINST 5200.40 - Update the DON M&S VV&A Implementation Handbook IAW updated SECNAVINST 5200.40 - Continue other FY11 efforts. <p>FY 2013 Plans:</p> <ul style="list-style-type: none"> - Continue other FY12 efforts. 		0.426 0	0.591 0	0.601 0
<p>Title: SIMULATION EXPERIMENTS</p> <p>Articles:</p>		1.994 0	2.030 0	-

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0308601N: <i>Modeling & Simulation Support</i>	PROJECT 2222: <i>Modeling & Simulation</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
<p>Description: This activity supports Fleet exercises and experiments through the application of distributed simulations across a wide variety of warfighting and supporting communities. Specifically, it develops and integrates appropriate M&S into Fleet Synthetic Training (FST), and develops simulation efforts to test and evolve the standards for models, interfaces, and data. It supports development of tools necessary to enable the seamless access and use of operationally relevant M&S products to support Navy training, warfare assessments and acquisition requirements.</p> <p>FY 2011 Accomplishments:</p> <ul style="list-style-type: none"> - Continued development of Naval capabilities in the USAF/USN Strategic Analysis tool Synthetic Theater Operations Research Model (STORM). Integrate a set of Electronic Warfare (EW) elements into the model by identifying, scoping and developing conceptual models and software designs to represent these elements at the Joint Campaign level. Design models of EW elements that are supportable with available data and appropriate for the campaign and analytic questions of interest. Document and scope the EW representations through coordination with the STORM Configuration Control Board (CCB). - Continued to define enhancements of USMC STORM to make the model representative of the full-spectrum capabilities of the Joint force by incorporating COSAGE/Attrition Calibration (ATCAL) enhancements; this dynamic scaling enhancement offers a significant fidelity increase for the improved adjudication of ground force engagements occurring at regiment- or battalion-level. - Continued to develop of a "common software package" for Navy Training Interoperability. This software package reduces simulation interoperability complexity to the applicable distributed Navy training standard / architecture by providing a common interface across multiple simulations - Continued to develop a "Navy training test harness" which allows their capabilities and interoperability with Navy Continuous Training Environment (NCTE) and other Navy training standards as part of their development and delivery life cycles. <p>FY 2012 Plans:</p> <ul style="list-style-type: none"> - Continue integrating an additional set of EW elements into STORM - Continue other FY11 efforts. 			
Accomplishments/Planned Programs Subtotals	7.963	8.292	5.908

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

N/A

D. Acquisition Strategy

This is a non-ACAT program. The focus of the Navy Modeling and Simulation (M&S) Office is to facilitate and enable the efficient use of M&S by minimizing duplication of M&S efforts and maximize the reuse of M&S and data.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
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E. Performance Metrics

This program supports ongoing efforts to define, develop and utilize M&S technologies, standards and techniques in DoN and Joint programs across a wide range of disciplines and technical arenas. As such, performance metrics are specific to individual projects initiated under this program element. Representative examples of performance criteria for M&S support include the following: VV&A of deployed M&S systems to support Fleet and Force missions and assessments; degree of composability and adaptability of system architectures employed in M&S systems; ability of M&S systems to replicate and permit recreation of force or system interactions that otherwise would be performed by more labor-intensive or expensive personnel, forces or elements; degree to which M&S frameworks would permit rapid integration and employment of analytic capabilities for the analysis and documentation of warfighter missions, weapons systems or Tactics, Techniques and Procedures (TT&P); and ability of a specific M&S technology or technique to meet the requirements specified in an individual project supported by this program.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0308601N: <i>Modeling & Simulation Support</i>	PROJECT 2222: <i>Modeling & Simulation</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
MOVES	WR	Naval Postgraduate School:Monterey, CA	0.822	0.847	Oct 2011	0.872	Oct 2012	-		0.872	Continuing	Continuing	Continuing
DON Mission Level Model Gap Analysis	WR	NAVAIR:Pax River, MD	0.960	-		-		-		-	1.527	2.487	
M&S Interoperability Initiative	WR	SPAWAR:San Diego, CA	0.650	0.850	Oct 2011	-	Oct 2012	-		-	0.000	1.500	
M&S Interoperability Initiative	WR	NAVAIR:Pax River, MD	0.950	0.850	Oct 2011	-	Oct 2012	-		-	0.000	1.800	
Standard Interfaces for Rapid Development	WR	NAVAIR:Pax River, MD	0.620	0.620	Oct 2011	0.920	Oct 2012	-		0.920	0.000	2.160	
Converting IW Data into Models	WR	MCCDC:GRP W	-	-	Oct 2011	-		-		-	0.000	0.000	
Navy Training Test Harness	WR	ONR/NAVAIR:TSD	0.375	-		-		-		-	0.000	0.375	
Surface Combat Tactical Team Trainer	WR	NAVAIR:TSD	-	0.680	Oct 2011	-		-		-	0.000	0.680	
AIMS EO/IR Sensor Simulation	WR	NAVAIR:TSD	-	-		-	Oct 2012	-		-	0.000	0.000	
Navy Future Campaign Model	WR	OPNAV:GRP W	0.500	0.500	Oct 2011	0.230	Oct 2012	-		0.230	0.000	1.230	
Navy M&S Mission Suite	WR	OPNAV/NSWC:Carderock, MD	-	-	Oct 2011	-	Oct 2012	-		-	0.000	0.000	
USMC STORM	WR	MCCDC:GRP W	0.250	-		-		-		-	0.000	0.250	
Community Projects	WR	SPAWAR:Charleston, SC	0.124	0.147	Oct 2011	-	Oct 2012	-		-	0.000	0.271	
Subtotal			5.251	4.494		2.022		-		2.022			

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
RDA IDS (#2)	WR	SPAWAR:Charleston, SC	-	-	Oct 2011	-	Oct 2012	-		-	0.000	0.000	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0308601N: <i>Modeling & Simulation Support</i>	PROJECT 2222: <i>Modeling & Simulation</i>
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Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
RDA IDS (#1&3)	WR	SPAWAR:Charleston, SC	0.195	0.447	Oct 2011	0.461	Oct 2012	-		0.461	0.000	1.103	
RDA POC	WR	NAVAIR:Pax River, MD	0.108	0.111	Oct 2011	0.114	Oct 2012	-		0.114	0.000	0.333	
Training IDS (#1)	WR	SPAWAR:Charleston, SC	-	0.267	Oct 2011	0.274	Oct 2012	-		0.274	0.000	0.541	
Training IDS (#3)	WR	SPAWAR:Charleston, SC	0.222	0.229	Oct 2011	0.235	Oct 2012	-		0.235	0.000	0.686	
Analysis IDS	WR	SPAWAR:Charleston, SC	0.198	0.505	Oct 2011	0.520	Oct 2012	-		0.520	0.000	1.223	
IDS Training and Coordination	WR	SPAWAR:Charleston, SC	0.028	0.029	Oct 2011	0.030	Oct 2012	-		0.030	0.000	0.087	
USMC IDS	WR	MCCDC:Not Specified	0.138	0.142	Oct 2011	0.146	Oct 2012	-		0.146	0.000	0.426	
Subtotal			0.889	1.730		1.780		-		1.780	0.000	4.399	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
VV&A Standards & Support	WR	SPAWAR:Charleston, SC	0.253	0.370	Oct 2011	0.388	Oct 2012	-		0.388	0.000	1.011	
Plans and Policies (M&S)	WR	SPAWAR:Charleston, SC	0.063	0.067	Oct 2011	0.060	Oct 2012	-		0.060	0.000	0.190	
Subtotal			0.316	0.437		0.448		-		0.448	0.000	1.201	

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
NMSO Director	WR	SPAWAR:Charleston, SC	0.259	0.261	Oct 2011	0.275	Oct 2012	-		0.275	0.000	0.795	
NMSO Data Archiving Effort	WR	NAVAIR:Pax River, MD	0.159	0.124	Oct 2011	0.069	Oct 2012	-		0.069	0.000	0.352	

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY			R-1 ITEM NOMENCLATURE								
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>			PE 0702207N: <i>Depot Maintenance (NON-IF)</i>								
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	17.750	21.446	27.391	-	27.391	29.762	29.110	19.659	20.029	Continuing	Continuing
3030: <i>FA-18 SLAP</i>	17.750	21.446	10.961	-	10.961	23.494	21.669	19.659	20.029	Continuing	Continuing
3182: <i>T-45 SLAP</i>	-	-	16.430	-	16.430	6.268	7.441	-	-	0.000	30.139

A. Mission Description and Budget Item Justification

3030: The F/A-18 Service Life Assessment Program (SLAP) is assessing the structural condition of the F/A-18 fleet in order to determine what modifications are necessary to extend the aircraft designed life limits to allow it to achieve Chief of Naval Operations inventory requirements.

3182: The T-45 SLAP Project involves the prototype design and development of a new tail hook that is capable of supporting Pilot and Naval Flight Officer (NFO) training in an aircraft carrier environment through 2035. The project also includes an assessment of the aircraft subsystem condition of the T-45 fleet in order to determine what modifications are necessary to extend the aircraft subsystem design life limits to support the Pilot Integrated Production Plan (IPP) and NFO through 2035.

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	18.649	21.609	15.828	-	15.828
Current President's Budget	17.750	21.446	27.391	-	27.391
Total Adjustments	-0.899	-0.163	11.563	-	11.563
• Congressional General Reductions	-	-0.163			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.262	-			
• SBIR/STTR Transfer	-0.388	-			
• Program Adjustments	-	-	11.724	-	11.724
• Rate/Misc Adjustments	-	-	-0.161	-	-0.161
• Congressional General Reductions Adjustments	-0.249	-	-	-	-

Change Summary Explanation

Technical: Not applicable.

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APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	PE 0702207N: <i>Depot Maintenance (NON-IF)</i>

Schedule: 3030: The Structures Phase B effort is extended to 3rd Quarter 2016. The Structures Phase C effort will begin in 2nd Quarter 2015. Phase B is updated to reflect a larger scope of work required to complete Structures tasking. Structures Phase C schedule movement is a product of the Structures Phase B schedule change.

The Subsystems Phase B effort will be completed in 3rd Quarter 2013 and Subsystems Phase C will start in 4th Quarter 2013 and end in 1st Quarter 2016. This change reflects a more narrow scope of work required to complete Subsystems Phase B Tasking. Subsystems Phase C schedule movement is a product of the Subsystems Phase B schedule change.

3182: Not Applicable

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0702207N: <i>Depot Maintenance (NON-IF)</i>	PROJECT 3030: <i>FA-18 SLAP</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
3030: <i>FA-18 SLAP</i>	17.750	21.446	10.961	-	10.961	23.494	21.669	19.659	20.029	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The F/A-18 Service Life Assessment Program (SLAP) is assessing the structural condition of the F/A-18 fleet in order to determine what modifications are necessary to extend the aircraft designed life limits to allow it to achieve Chief of Naval Operations (CNO) inventory requirements. The goal of the SLAP program is to identify critical structures and components that can achieve the extended service life limit goals. An increase in total landings and flight hours would allow the F/A-18 to meet CNO inventory requirements, to include planning for the announced one year Joint Strike Fighter slide. This effort is required to be conducted for these airframes to ascertain what actions and modifications must be taken to safely operate each system beyond its designed life until the targeted end of service life.

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

	FY 2011	FY 2012	FY 2013
Title: F/A-18 SLAP	17.750	21.446	10.961
Articles:	0	0	0
Description: Funding supports assessing the structural condition of the F/A-18 fleet in order to determine what modifications are necessary to extend the aircraft designed life limits to allow it to achieve CNO inventory requirements.			
FY 2011 Accomplishments: Continue analysis of numerous data points to provide exploitation of complete structural fatigue testing with the expectation of extending the current service life of F/A-18E/F flight hours from 6,000 to 9,000 hours.			
FY 2012 Plans: Continue analysis of numerous data points to provide exploitation of complete structural fatigue testing with the expectation of extending the current service life of F/A-18E/F flight hours from 6,000 to 9,000 hours.			
FY 2013 Plans: Continue analysis of numerous data points to provide exploitation of complete structural fatigue testing with the expectation of extending the current service life of F/A-18E/F flight hours from 6,000 to 9,000 hours.			
Accomplishments/Planned Programs Subtotals	17.750	21.446	10.961

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

Line Item	FY 2011	FY 2012	FY 2013	FY 2013	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Cost To	
			Base	OCO	Total					Complete	Total Cost
• APN/0525: <i>F-18 Series (OSIP 011-99)</i>	84.328	109.409	151.418	0.000	151.418	204.406	314.493	491.057	413.080	105.665	2,574.019

D. Acquisition Strategy

The Service Life Assessment Program (SLAP) program employs sole source contracts with Boeing, the aircraft prime manufacturer. SLAP consists of structural analyses of the main landing gear, arresting hook and catapult back-up structures, vertical tails, wings and fuselage. The current life limits for the F/A-18 E/F are 6,000 Flight Hours (FH), 2,250 catapults/arrestments (Cat/Traps) and 15,750 total landings. The F/A-18 SLAP program of record states the SLAP goals as 12,000 FH, 3,500 Cat/Traps and 22,500 total landings. The primary objective of F/A-18 SLAP is to determine if the stated SLAP goals are feasible. SLAP further decomposes program of record goals into smaller discreet steps, analyzing requirements to extend FH from 6,000 to 9,000 first. These analyses will provide for the development of aircraft modifications necessary to extend total aircraft landings, Cat/Traps, and FH. The F/A-18 SLAP Program consists of two major engineering efforts: the aircraft structural assessment and the aircraft subsystems assessment. Both efforts are broken into multiple phases which develop tools and models, assess current aircraft usage, and develop concepts to extend aircraft life to meet CNO objectives. The program will combine exploitation of complete structural fatigue testing and actual fleet usage with the expectation of extending the service life of the F/A-18 aircraft. Conducting F/A-18 SLAP to study the aircraft lifetime will provide a better estimate of aircraft service life and a follow on Service Life Extension Program (SLEP).

E. Performance Metrics

The SLAP provides an assessment of aircraft structure fatigue life as affected by flight maneuver, Cat/Traps and landings, based on actual usage and identifies the efforts required to extend the aircraft life to SLAP goals. During SLAP Phase A (FY08-FY12) tools and modeling necessary to assess usage and fatigue life are developed. During SLAP Phase B (FY11-FY13) specific structural locations which do not meet SLAP goals are identified and analyzed. Flight Control Surface and Subsystems SLAP is also initiated concurrently with Structures Phase B. Retrofit concepts and repairs for deficient locations are developed during SLAP Phase C (FY13-FY17). SLAP is followed by the SLEP during which the actual retrofit and repairs are performed under a future OSIP to be established in FY14.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0702207N: <i>Depot Maintenance (NON-IF)</i>	PROJECT 3030: <i>FA-18 SLAP</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 Service Life Assessment Program (SLAP) F/A-18A-D	SS/CPFF	Boeing:St. Louis, MO	28.775	-		-		-		-	0.000	28.775	28.775
Product Development SLAP F/A-18E-F	SS/CPFF	Boeing:St. Louis, MO	42.390	14.973	Mar 2012	5.499	Mar 2013	-		5.499	61.185	124.047	124.047
Subtotal			71.165	14.973		5.499		-		5.499	61.185	152.822	152.822

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
SLAP Inventory Model	WR	ONR:Arlington, VA	2.250	-		-		-		-	0.000	2.250	
SLAP F/A-18 E/F	WR	NAWCAD:Patuxent River, MD	4.935	1.600	Dec 2011	1.371	Dec 2012	-		1.371	2.849	10.755	
SLAP F/A-18 E/F	WR	FRC Southwest:San Diego, CA	3.476	3.800	Dec 2011	2.589	Dec 2012	-		2.589	21.961	31.826	
Subtotal			10.661	5.400		3.960		-		3.960	24.810	44.831	

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & 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 - SLAP E/F	WR	NAWCAD:Pax River, MD	0.500	0.500	Dec 2011	0.282	Dec 2012	-		0.282	0.500	1.782	
Subtotal			0.500	0.500		0.282		-		0.282	0.500	1.782	

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0702207N: <i>Depot Maintenance (NON-IF)</i>	PROJECT 3030: <i>FA-18 SLAP</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Service Life Assessment Program F/A-18				
Structures: 1.0 Structures Phase A	1	2011	1	2013
Structures: 2.0 Structures Phase B	1	2012	3	2016
Structures: 3.0 Structures Phase C	2	2015	1	2017
Subsystems: 5.0 Subsystems Phase B	1	2011	3	2013
Subsystems: 6.0 Subsystems Phase C	4	2013	1	2016

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0702207N: <i>Depot Maintenance (NON-IF)</i>	PROJECT 3182: <i>T-45 SLAP</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
3182: <i>T-45 SLAP</i>	-	-	16.430	-	16.430	6.268	7.441	-	-	0.000	30.139
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

3182: The T-45 aircraft structure is currently fatigue limited to 14,400 flight hours based on initial full-scale fatigue tests conducted from 1992-1996. This service life limit prevents the T-45 fleet from meeting Integrated Production Plan (IPP), previously Pilot Training Requirements, past 2025. Recent studies have determined that the fleet squadrons have not been flying the T-45 aircraft as aggressively as the initial fatigue studies predicted. These studies demonstrate that the 14,400 flight hour service life can likely be extended, with a Service Life Extension Program (SLEP), to 21,600 flight hours, which will support meeting IPP until 2035. A T-45 Structural Service Life Assessment Program (SLAP) is due to complete in February 2012. The results will be used to provide guidance on what structural areas to SLEP. In order for the T-45 to meet IPP until 2035, it is also necessary to assess the sub-systems of the T-45 in their ability to remain viable. The T-45 Sub-Systems SLAP is assessing the sub-system condition of the T-45 fleet in order to determine sub-system modifications and/or redesign necessary to extend the aircraft designed service life to support IPP and Naval Flight Officer Training Requirements (NTR) until 2035. This sub-system assessment will be based on the updated fleet aircraft usage spectrum and future predicted training missions of the T-45 aircraft. The assessment will address all critical sub-systems required and their ability to maintain IPP/NTR until 2035, analysis and studies will be conducted to outline improvements, assess manufacturing capabilities, prototype redesign and test of sub-systems for trainer aircraft. The T-45 aircraft is the U.S. Navy's only training aircraft capable of providing carrier capable jet training. The T-45 arrestment tail hook assembly is an integral component required to support this training capability. The T-45 tail hook assembly is a "life-limited" component which is scrapped after attaining its maximum safe life limit of 600 or 1020 arrestments (based on part number), becomes damaged, or is severely corroded. Due to Diminishing Manufacturing Sources & Material Shortages issues resulting in no current tail hook assembly manufacturer, it is necessary to design, develop, qualify and test an alternate prototype tail hook. This will allow the T-45 to remain operationally available in providing the DON with carrier capable jet training.

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

	FY 2011	FY 2012	FY 2013
Title: T-45 SLAP	-	-	16.430
Articles:			0
Description: Funding supports development of a new tail hook and conducting a Subsystem SLAP to determine modifications necessary to extend service life through 2035.			
FY 2013 Plans: Begin the design and development of new tail hook and initiate subsystem SLAP activities and engineering studies with the expectation of extending the T-45 service life to 2035.			
Accomplishments/Planned Programs Subtotals	-	-	16.430

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0702207N: <i>Depot Maintenance (NON-IF)</i>	PROJECT 3182: <i>T-45 SLAP</i>
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C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u> <u>Base</u>	<u>FY 2013</u> <u>OCO</u>	<u>FY 2013</u> <u>Total</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• APN/05690: <i>T-45 Series OSIP</i> <i>00895</i>	12.056	15.016	25.829	0.000	25.829	61.497	62.000	70.319	68.742	676.581	1,167.035

D. Acquisition Strategy

The Subsystem SLAP is a sole source contract effort with Boeing, the aircraft prime contractor. SLAP consists of an analysis of the aircraft subsystems (e.g., Global Positioning System Inertial Navigation Assembly or Mission Data Processor). The analysis will facilitate the future development of subsystem modifications and/or redesigns necessary to extend their life until 2035. The development and prototyping of a new tail hook is anticipated to be a competitively awarded contract. The effort will involve the design, development and qualification of a tail hook capable of meeting T-45 carrier based training requirements until 2035.

E. Performance Metrics

SLAP provides an assessment of aircraft component life as affected by flight maneuver, catapults, arrestments, landings, and obsolescence based on actual usage and identifies the efforts required to extend the aircraft life to SLAP goals (2035). Effort delineates tasking incrementally to include; Tools and modeling necessary to assess usage and life are developed, specific designs which do not meet SLAP goals are identified and analyzed. Retrofit concepts and redesigns for problem areas are developed, followed by the SLEP during which the actual retrofits are undertaken.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0702207N: <i>Depot Maintenance (NON-IF)</i>	PROJECT 3182: <i>T-45 SLAP</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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			
Prod Dev SLAP T-45A/C	SS/CPFF	Boeing:St. Louis, MO	-	-		3.300	Jan 2013	-		3.300	6.300	9.600	9.600
Prod Dev T-45 Tail Hook	C/CR	TBD:TBD	-	-		3.200	Jan 2013	-		3.200	4.000	7.200	7.200
Subtotal			-	-		6.500		-		6.500	10.300	16.800	16.800

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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	WR	NAWCAD:Patuxent River, MD	-	-		7.900	Jan 2013	-		7.900	2.809	10.709	
SLAP Engineering Study	SS/BOA	JHU/APL:Laurel, MD	-	-		1.850	Jan 2013	-		1.850	0.200	2.050	2.050
Subtotal			-	-		9.750		-		9.750	3.009	12.759	

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 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	NAWCAD:Patuxent River, MD	-	-		0.180	Jan 2013	-		0.180	0.400	0.580	
Subtotal			-	-		0.180		-		0.180	0.400	0.580	

			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	-		16.430		-		16.430	13.709	30.139	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0702207N: <i>Depot Maintenance (NON-IF)</i>	PROJECT 3182: <i>T-45 SLAP</i>
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T-45 SLAP	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017							
	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				
Product Development																																
									1.0 Product Development																							
													2.0 Product Development																			

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0702207N: <i>Depot Maintenance (NON-IF)</i>	PROJECT 3182: <i>T-45 SLAP</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
<i>T-45 SLAP</i>				
Product Development: SLAP T-45C	1	2013	4	2015
Product Development: T-45 Tail Hook	2	2013	4	2015

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0702239N: <i>Avionics Component Improvement Program</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	3.177	-	-	-	-	-	-	-	-	0.000	3.177
3170: <i>Avionics Component Improvement Program(AVCIP)</i>	3.177	-	-	-	-	-	-	-	-	0.000	3.177

A. Mission Description and Budget Item Justification

Project 3170 - The Avionics Component Improvement Program (AvCIP) develops, demonstrates, integrates, tests and evaluates solutions to address critical readiness and reliability deficiencies, obsolescence, loss of sustainability, and top repair cost drivers in Navy in-service avionics systems. Project candidates are collected from across all platforms, reviewed, competed and selected in the year prior to funding allocation.

Beginning in FY 2012, Project Unit 3170 transfers to Standards Development, PE 0604215N, Project Unit 0572.

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	3.250	-	-	-	-
Current President's Budget	3.177	-	-	-	-
Total Adjustments	-0.073	-	-	-	-
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.056	-			
• Congressional General Reductions	-0.017	-			
Adjustments					

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				R-1 ITEM NOMENCLATURE PE 0702239N: <i>Avionics Component Improvement Program</i>				PROJECT 3170: <i>Avionics Component Improvement Program(AVCIP)</i>			
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
3170: <i>Avionics Component Improvement Program(AVCIP)</i>	3.177	-	-	-	-	-	-	-	-	0.000	3.177
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The Avionics Component Improvement Program (AvCIP) provides design, development, demonstration, test and evaluation, and integration support to resolve critical readiness and reliability deficiencies, obsolescence, loss of sustainability and top repair cost drivers of in-service Navy avionics systems. Funds are competitively allocated across multi-platform commodity and platform-specific projects with the objective of maintaining Avionics systems effectiveness at levels required to ensure mission success. AvCIP has been endorsed by the OSD Business Initiatives Council as a cooperative tri-service program that adopts the better business practices and proven resourcing models of the Engine Component Improvement Program. Resources are directed just prior to the execution year, allowing funds to address the most current fleet issues and accelerate solution fielding. Lack of out-year deliverable specificity is mitigated through definition of Avionics capability evolution in the Core Avionics Master Plan. Although Avionics association to digital technology brings challenges to keep pace with Moore's Law and stay ahead of obsolescence, it also affords significant opportunity to reap benefits of emerging advancements. Conversion of legacy systems from analog to digital components has consistently resulted in reliability gains that significantly reduce maintenance/repair activity/costs, save weight and space, and increase operational availability. Modern open system architecture technology insertion improves system upgradeability, by reducing integration time and cost. Avionics systems are the vehicles that enable platform connectivity and interoperability. AvCIP will help platforms integrate the modern technology that will allow them to keep pace with the rapid evolution of transformational network centric operations development. AvCIP also provides a vehicle to address unanticipated performance issues or critical changes in threat, tactics or operational demands revealed during deployment without disrupting program budget profiles designed for other purposes. AvCIP is designed to support manned and unmanned, common and unique, fixed and rotary wing aircraft electronic systems, including communications, navigation, surveillance, sensors, combat identification, civil interoperability, safety, mission data processing and display, and network connectivity equipment. Initiative selection is based upon analysis of operational priority, performance improvement, capability benefit, scope of applicability across fleet platform or weapon system inventory, technical risk, delivery time, cost and life cycle return on investment.

Beginning in FY 2012, Project Unit 3170 transfers to Standards Development, PE 0604215N, Project Unit 0572.

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

	FY 2011	FY 2012	FY 2013
Title: AvCIP	3.177	-	-
Articles:	0		
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 design and			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0702239N: <i>Avionics Component Improvement Program</i>	PROJECT 3170: <i>Avionics Component Improvement Program(AVCIP)</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
development, prototypes, platform integration, engineering, developmental/operational testing, program management, contracting and logistics efforts. Logistics will include efforts such as technical data, support equipment, provisioning, and training.			
<i>FY 2011 Accomplishments:</i> AvCIP NRE completed on the following projects: Second phase of E-2C APS-145 Radar Radio Frequency Amplifier. Qualification and flight test of FA-18 E/F Lot 26-29 MAGR2K GPS Receiver 24 Channel Card. E-2C Overhead Cockpit White Light modification. E-2C, C-2 Emergency Escape Hatch Light modification. P-3C UYQ-76A Maintenance Data Processing System upgrade. AN/APN-171 SRA DMSMS Sustainment and EP-3 Digital Autopilot upgrade.			
Accomplishments/Planned Programs Subtotals	3.177	-	-

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2011	FY 2012	FY 2013	FY 2013	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• APN/0577: <i>Common Avionics</i>	1.996	2.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	7.959

D. Acquisition Strategy
AvCIP will annually compete candidate solutions according to criticality of operational contribution, 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). Demonstrated 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 design and development, prototypes, platform integration, engineering, developmental/operational testing, program management, contracting and logistics efforts. Logistics will include efforts such as technical data, support equipment, provisioning, and training.

E. Performance Metrics
The AvCIP program goal is successful establishment of AvCIP projects, execution and benefits tracking mechanisms.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY			R-1 ITEM NOMENCLATURE								
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>			PE 0708011N: <i>Industrial Preparedness</i>								
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	44.626	54.031	54.879	-	54.879	54.133	52.846	57.014	57.371	Continuing	Continuing
1050: <i>Manufacturing Tech</i>	44.626	54.031	54.879	-	54.879	54.133	52.846	57.014	57.371	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Manufacturing Technology (ManTech) program is intended to improve the productivity and responsiveness of the U.S. defense industrial base by funding the development and transition of leading edge manufacturing technologies. The ManTech program is executed through a Center of Excellence (COE) strategy. A majority of the COEs are consortium based with only a small group of technical and management personnel at the center. ManTech projects are primarily performed by industry participants that bill the COE which, in turn, bills the Navy which causes a non-traditional financial execution profile for the program. The program therefore does not meet traditional execution benchmarks. The ManTech program, by providing seed funding for the development of moderate to high risk process and equipment technology, permits contractors to upgrade their manufacturing capabilities. Ultimately, the program aims to produce high-quality weapon systems with shorter lead times and reduced acquisition costs.

Due to the number of efforts in this PE, the programs described herein are representative of the work included in this PE.

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	46.173	54.031	51.001	-	51.001
Current President's Budget	44.626	54.031	54.879	-	54.879
Total Adjustments	-1.547	-	3.878	-	3.878
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-1.312	-			
• Program Adjustments	-	-	3.912	-	3.912
• Rate/Misc Adjustments	-	-	-0.034	-	-0.034
• Congressional General Reductions Adjustments	-0.235	-	-	-	-

Change Summary Explanation

Technical: Not applicable.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	PE 0708011N: <i>Industrial Preparedness</i>

Schedule: Not applicable.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0708011N: <i>Industrial Preparedness</i>	PROJECT 1050: <i>Manufacturing Tech</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
1050: <i>Manufacturing Tech</i>	44.626	54.031	54.879	-	54.879	54.133	52.846	57.014	57.371	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

The ManTech Program is intended to improve the productivity and responsiveness of the U.S. defense industrial base by funding the development of manufacturing technologies. Major areas of endeavor both underway and planned include: advanced manufacturing technology for metalworking, joining, electronics and electro-optics, composites, shipbuilding, and above-the-factory-floor business operations technology. The ManTech Program is aimed at assisting acquisition programs in meeting performance and affordability goals by inserting manufacturing process solutions early into the design phase.

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

	FY 2011	FY 2012	FY 2013
Title: COMPOSITES PROCESSING AND FABRICATION	6.000	6.000	6.000
Articles:	0	0	0
<p>Description: The primary technical goal of the Composites Processing and Fabrication activity is improving weapon systems affordability, enhancing weapon system effectiveness and improving reliability / war-fighter readiness through the increased utilization of composite materials and structures. This is being achieved through the development and maturation of affordable, robust manufacturing and assembly processes that fully exploit the benefits of composite materials. Concentration is on affordability for the following shipbuilding platforms: DDG-51, CVN-78 Class Carrier (previously CVN-21), VIRGINIA Class Submarine (VCS), and Littoral Combat Ship (LCS) with some funding for composites manufacturing technology for high priority air platforms such as the Joint Strike Fighter (JSF).</p> <p>FY 2011 Accomplishments:</p> <ul style="list-style-type: none"> - Continued Composite Materials and Process Improvement Thrust for VCS Shipbuilding Affordability Initiative. Includes continuation of efforts to develop / optimize composite materials fabrication technology for reduced cost VCS construction. - Continued Composite Materials and Process Improvement Thrust for DDG-51 Shipbuilding Affordability Initiative. - Continued Composite Materials and Process Improvement Thrust for CVN-78 Shipbuilding Affordability Initiative. - Continued Composite Materials and Process Improvement Thrust for Air Platforms. <p>FY 2012 Plans:</p> <ul style="list-style-type: none"> - Continued all efforts of FY 2011. - Initiated Composite Materials and Process Improvement Thrust for LCS Shipbuilding Affordability Initiative. <p>FY 2013 Plans:</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0708011N: <i>Industrial Preparedness</i>	PROJECT 1050: <i>Manufacturing Tech</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
- Continued all efforts of FY 2012.				
Title: CORPORATE INVESTMENTS		4.116	9.631	10.479
		0	0	0
Articles:				
Description: The Corporate Investments activity is focused on accelerating defense industrial enterprise progress toward implementation of world-class industrial practices as well as advanced design and information systems that support weapon system development, production, and sustainment. Key emphasis areas include: 1) Benchmarking and accelerating the implementation of world-class industrial practices throughout the contractor base; 2) Demonstrating and validating advanced business practices and information technologies capable of streamlining management functions in all industrial base tiers; and 3) Leveraging information technologies in pursuit of tighter coupling of all defense industrial enterprise elements. Corporate Investment efforts create improvements to cost and cycle time for weapon system development, production, and repair. Additionally, Corporate Investments include the funding of recently identified near-term high priority shipbuilding affordability efforts for the following shipbuilding platforms - DDG-51, CVN-78 Class Carrier (previously CVN-21), VIRGINIA Class Submarine (VCS), and Littoral Combat Ship (LCS) as well as the Joint Strike Fighter (JSF). The increase from FY 2011 through FY 2013 reflects alignment to manufacturing priorities.				
FY 2011 Accomplishments:				
- Continued Near-Term High Priority Shipbuilding Affordability Thrust for CVN-78.				
- Continued Near-Term High Priority Shipbuilding Affordability Thrust for LCS.				
- Continued efforts to improve the Navy industrial base through above-the-factory-floor enhancements and supply chain processes/technology improvements for Navy weapon system acquisition programs such as the DDG-51, CVN-78, LCS, VCS, and others.				
- Continued Near-Term, High Priority Shipbuilding Affordability Thrust for DDG-51.				
- Continued Near-Term High Priority Shipbuilding Affordability Thrust for VCS.				
FY 2012 Plans:				
- Continued all efforts of FY 2011 unless noted otherwise.				
FY 2013 Plans:				
- Continue all efforts of FY 2012.				
- Initiate Near-Term High Priority Affordability Thrust for JSF.				
Title: ELECTRONICS PROCESSING AND FABRICATION		6.300	10.000	10.000
		0	0	0
Articles:				

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0708011N: <i>Industrial Preparedness</i>	PROJECT 1050: <i>Manufacturing Tech</i>	
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012
<p>Description: Electronics Processing and Fabrication efforts develop and deploy affordable, robust manufacturing processes and capabilities for electronics critical to defense applications over their full life cycle. Efforts create new and improved manufacturing processes on the shop floor, as well as repair and maintain facilities such as depots and logistics centers, with a strong emphasis on process maturation. Emphasis is on affordability for the following shipbuilding platforms: DDG-51, CVN-78 Class Carrier (previously CVN-21), VIRGINIA Class Submarine (VCS), and Littoral Combat Ship (LCS), with some funding geared towards toward electronics / electro-optics improvements for high priority air platforms such as the Joint Strike Fighter (JSF).</p> <p>The funding increase in FY 2012 is to provide manufacturing improvements to the radar system on the Littoral Combat Ship and manufacturing improvements to the transmitter in the MK 99 Fire Control System.</p> <p>FY 2011 Accomplishments:</p> <ul style="list-style-type: none"> - Continued Electronics/Electro-Optics Thrust for VCS Affordability Initiative. Includes continuation of improved affordable electronics/electro-optics efforts. - Continued Electronics/Electro-Optics Thrust for LCS Shipbuilding Affordability Initiative. - Continued Electronics/Electro-Optics Thrust for Air Platforms. Includes continuation of electronics/electro-optics efforts to improve affordability for Air Platforms. - Continued Electronics/Electro-Optics Thrust for DDG-51 Shipbuilding Affordability Initiative. Includes radar/communications efforts to impact DDG-51 affordability. - Continued Electronics/Electro-Optic Thrust for CVN-78 (formerly CVN-21) Shipbuilding Affordability Initiative. Includes continuation of electronics/electro-optics efforts to improve affordability for CVN-78 Class Carrier. <p>FY 2012 Plans:</p> <ul style="list-style-type: none"> - Continued efforts of FY 2011. <p>FY 2013 Plans:</p> <ul style="list-style-type: none"> - Continue efforts of FY 2012. 			
Title: METALS PROCESSING AND FABRICATION		18.000	18.000
		0	0
Description: The objective of the Metals Processing and Fabrication activity is to develop affordable, robust manufacturing processes and capabilities for metals and special materials critical to defense weapon system applications. Major areas that support this objective include: processing methods, special materials, joining, and inspection and compliance. These efforts directly impact the cost and performance of future aircraft, rotorcraft, land combat vehicles, surface and subsurface naval platforms, space systems, artillery and ammunition, and defense industry manufacturing equipment. Emphasis is on affordability for the following shipbuilding platforms: DDG-51, CVN-78 Class Carrier (previously CVN-21), VIRGINIA Class Submarine (VCS),		Articles:	18.000
		0	0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0708011N: <i>Industrial Preparedness</i>	PROJECT 1050: <i>Manufacturing Tech</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<p>and Littoral Combat Ship (LCS), with some funding geared toward metals processing and fabrication improvements for high priority air platforms such as the Joint Strike Fighter (JSF).</p> <p>FY 2011 Accomplishments:</p> <ul style="list-style-type: none"> - Continued Schedule Compression/Production Engineering Thrust for VCS Shipbuilding Affordability Initiative. - Continued Outfitting Thrust for VCS Shipbuilding Affordability Initiative. - Continued rapid response efforts. - Continued Metals Materials and Process Improvement Thrust for DDG-51 Shipbuilding Affordability Initiative. Metallic materials and process efforts for DDG-51 include material characterization for optimum processing and fabrication as well as process optimization (welding, bonding, machining, etc.) resulting in reduced cost of fabrication for DDG-51 components. - Continued Metals Materials and Process Improvement Thrust for CVN-78 Shipbuilding Affordability Initiative. Metallic materials and process efforts for CVN 78 include material characterization for optimum processing and fabrication as well as process optimization (welding, bonding, machining, etc.) resulting in reduced cost of fabrication for CVN 78 components. - Continued Metals Thrust for Littoral Combat Ship (LCS) Shipbuilding Affordability Initiative. - Continued Metals Materials and Process Improvement Thrust for VCS Shipbuilding Affordability Initiative. Metallic materials and process efforts for VCS include material characterization for optimum processing and fabrication as well as process optimization (welding, bonding, machining, coating/cladding, etc.) resulting in reduced cost of fabrication for VCS components. - Continued Metal Materials and Process Improvements Thrust for Other Ship/NAVSEA Platforms. - Continued Metals Materials and Process Improvement Thrust for Air Platforms. - Continued Metal Materials and Process Improvements Thrust for Marine Corps Systems. <p>FY 2012 Plans:</p> <ul style="list-style-type: none"> - Continued efforts of FY 2011. <p>FY 2013 Plans:</p> <ul style="list-style-type: none"> - Continue efforts of FY 2012. 				
<p>Title: OTHER (SHIPBUILDING, REPAIR TECH, ENERGETICS, AND TECHNICAL ENGINEERING SUPPORT)</p> <p align="right">Articles:</p> <p>Description: The "Other" activity includes shipbuilding technology, repair technology, energetics, and technical engineering support. Shipbuilding technology primarily addresses the development of manufacturing process improvements for shipyards and is geared towards affordability efforts for the following shipbuilding platforms: DDG-51, CVN-78 Class Carrier (previously CVN-21), VIRGINIA Class Submarine (VCS), and Littoral Combat Ship (LCS). Repair technology addresses repair, overhaul, and sustainment functions that emphasize remanufacturing processes and advancing technology. Energetics efforts concentrate on</p>		10.210 0	10.400 0	10.400 0

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0708011N: <i>Industrial Preparedness</i>	PROJECT 1050: <i>Manufacturing Tech</i>

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
<p>developing energetics solutions to ensure the availability of safe, affordable, and quality energetics products largely in support of Program Executive Office (PEO) Integrated Warfare Systems (IWS).</p> <p><i>FY 2011 Accomplishments:</i></p> <ul style="list-style-type: none"> - Continued Shipbuilding Affordability Thrust for CVN-78. - Continued Shipbuilding Affordability Thrust for VCS. - Continued Shipbuilding Affordability Thrust for LCS. - Continued Shipbuilding Affordability Thrust for DDG-51. - Continued Shipbuilding Thrust for Other Ship/NAVSEA Platforms. - Continued Repair Technology Thrust for repair and sustainment of Navy weapons systems. Includes continuation of Repair Technology projects based on high priority depot needs. - Continued Energetics Thrust for PEO IWS and Other Acquisition Programs. Includes continuation of energetics efforts to support PEO IWS and other acquisition programs. - Continued to provide technical engineering support for the ManTech Program. <p><i>FY 2012 Plans:</i></p> <ul style="list-style-type: none"> - Continued efforts of FY 2011. <p><i>FY 2013 Plans:</i></p> <ul style="list-style-type: none"> - Continued efforts of FY 2012. 			
Accomplishments/Planned Programs Subtotals	44.626	54.031	54.879

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

N/A

D. Acquisition Strategy

Efforts are focused on affordability reduction for the following: DDG Family, CVN-78 Class Carrier, Littoral Combat Ship (LCS), and the VIRGINIA Class Submarine (VCS) as well as more limited efforts for aircraft/other programs.

E. Performance Metrics

The ManTech program's overall goal is to transition production technology to reduce the cost of Navy weapons systems. Metrics are currently collected on the cost savings per hull for the class for each of the four primary shipbuilding platforms: DDG-51, CVN-78 Class Carrier, VCS, and LCS.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0708011N: <i>Industrial Preparedness</i>	PROJECT 1050: <i>Manufacturing Tech</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Mfg Development (B2P)	C/CPFF	American Competitiveness Institute (ACI):Philadelphia, PA (B2P)	6.300	-	Oct 2011	-		-		-	0.000	6.300	
Mfg Development (CMTC)	C/CPAF	SCRA:Anderson, SC	21.404	7.300	Oct 2011	6.580	Oct 2012	-		6.580	Continuing	Continuing	Continuing
Award Fee (CMTC)	C/CPAF	SCRA:Anderson, SC	0.900	0.300	Oct 2011	0.420	Oct 2012	-		0.420	0.000	1.620	
Mfg Development (CNST)1	C/CPFF	Advanced Technology Institute (ATI):Charleston, SC	4.697	-		-		-		-	0.000	4.697	
Mfg Development (CNST)2	C/CPAF	Advanced Technology Institute (ATI):Charleston, SC	9.315	4.997	Oct 2011	7.469	Oct 2012	-		7.469	0.000	21.781	
Award Fee (CNST)	C/CPAF	Advanced Technology Institute (ATI):Charleston, SC	0.680	0.300	Oct 2011	0.477	Oct 2012	-		0.477	0.000	1.457	
Mfg Development (EMPF)	C/CPAF	American Competitiveness Institute (ACI):Philadelphia, PA	18.699	8.227	Oct 2011	6.580	Oct 2012	-		6.580	0.000	33.506	
Award Fee (EMPF)	C/CPAF	American Competitiveness Institute (ACI):Philadelphia, PA	1.365	0.373	Oct 2011	0.420	Oct 2012	-		0.420	0.000	2.158	
Mfg Development (EMTC)	WR	Naval Surface Warfare Center - Indian Head:Indian Head, MD	6.000	2.000	Nov 2011	2.000	Oct 2012	-		2.000	0.000	10.000	
Mfg Development (EOC)	C/CPAF	Penn State University:State College, PA (EOC)	9.501	4.230	Oct 2011	4.230	Oct 2012	-		4.230	0.000	17.961	
Award Fee (EOC)	C/CPAF	Penn State University:State College, PA (EOC)	0.349	0.270	Oct 2011	0.270	Oct 2012	-		0.270	0.000	0.889	

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0708011N: <i>Industrial Preparedness</i>	PROJECT 1050: <i>Manufacturing Tech</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Mfg Development (iMAST)	C/CPFF	Penn State University:State College, PA (iMAST)	11.199	3.575	Dec 2011	3.875	Dec 2012	-		3.875	0.000	18.649	
Mfg Development (NJC)	C/CPAF	Edison Welding Institute:Columbus, OH	9.175	2.782	Oct 2011	-		-		-	0.000	11.957	
Award Fee (NJC)	C/CPAF	Edison Welding Institute:Columbus, OH	0.575	0.218	Oct 2011	-		-		-	0.000	0.793	
Mfg Development (NMC)	C/CPAF	Concurrent Technologies Corp.:Johnstown, PA	34.300	11.500	Oct 2011	13.563	Oct 2012	-		13.563	0.000	59.363	
Award Fee (NMC)	C/CPAF	Concurrent Technologies Corp.:Johnstown, PA	1.700	0.600	Oct 2011	0.861	Oct 2012	-		0.861	0.000	3.161	
Mfg Development	WR	Naval Air Systems Command (NAVAIR):Patuxent River, MD	1.153	0.400	Nov 2011	0.375	Nov 2012	-		0.375	0.000	1.928	
Mfg Development	WR	Naval Research Laboratory (NRL):Washington, DC	0.400	0.170	Nov 2011	0.470	Nov 2012	-		0.470	0.000	1.040	
Mfg Development	WR	Naval Surface Warfare Center - Carderock Division:Carderock, MD	4.191	1.488	Nov 2011	1.584	Nov 2012	-		1.584	0.000	7.263	
Mfg Development	WR	Naval Undersea Warfare Center - Newport:Newport, RI	0.380	-		-		-		-	0.000	0.380	
Mfg Development	WR	SPAWAR:San Diego, CA	0.010	-		-		-		-	0.000	0.010	
Subtotal			142.293	48.730		49.174		-		49.174			

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy	DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0708011N: <i>Industrial Preparedness</i>	PROJECT 1050: <i>Manufacturing Tech</i>

FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
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 1050	
Composites Processing and Fabrication	
-- Annual Investment Guidance (CP&F)	
-- Project Identification (CP&F)	
-- Project Evaluation (CP&F)	
-- Prog Office Commitment (CP&F)	
-- FY Plan Determined (CP&F)	
-- Project Award (CP&F)	
-- Ongoing Projects (CP&F)	
Corporate Investments	
-- Annual Investment Guidance (CI)	
-- Project Identification (CI)	
-- Project Evaluation (CI)	
-- Prog Office Commitment (CI)	
-- FY Plan Determined (CI)	
-- Project Award (CI)	
-- Ongoing Projects (CI)	
Electronics Processing and Fabrication	
-- Annual Investment Guidance (EP&F)	
-- Project Identification (EP&F)	
-- Project Evaluation (EP&F)	
-- Prog Office Commitment (EP&F)	
-- FY Plan Determined (EP&F)	
-- Project Award (EP&F)	

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0708011N: <i>Industrial Preparedness</i>	PROJECT 1050: <i>Manufacturing Tech</i>

Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 1050				
Composites Processing and Fabrication	4	2011	4	2017
-- Annual Investment Guidance (CP&F)	4	2011	4	2016
-- Project Identification (CP&F)	4	2011	1	2016
-- Project Evaluation (CP&F)	4	2011	2	2016
-- Prog Office Commitment (CP&F)	4	2011	2	2016
-- FY Plan Determined (CP&F)	4	2011	3	2016
-- Project Award (CP&F)	1	2011	2	2017
-- Ongoing Projects (CP&F)	1	2011	4	2017
Corporate Investments	4	2011	4	2017
-- Annual Investment Guidance (CI)	4	2011	4	2016
-- Project Identification (CI)	4	2011	4	2016
-- Project Evaluation (CI)	4	2011	4	2016
-- Prog Office Commitment (CI)	4	2011	4	2016
-- FY Plan Determined (CI)	4	2011	4	2016
-- Project Award (CI)	1	2011	2	2017
-- Ongoing Projects (CI)	1	2011	4	2017
Electronics Processing and Fabrication	4	2011	4	2017
-- Annual Investment Guidance (EP&F)	4	2011	4	2016
-- Project Identification (EP&F)	4	2011	4	2016
-- Project Evaluation (EP&F)	4	2011	4	2016
-- Prog Office Commitment (EP&F)	4	2011	4	2016

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0708011N: <i>Industrial Preparedness</i>	PROJECT 1050: <i>Manufacturing Tech</i>
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Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
-- FY Plan Determined (EP&F)	4	2011	4	2016
-- Project Award (EP&F)	1	2011	2	2017
-- Ongoing Projects (EP&F)	1	2011	4	2017
Metals Processing and Fabrication	4	2011	4	2017
-- Annual Investment Guidance (MP&F)	4	2011	4	2016
-- Project Identification (MP&F)	4	2011	4	2016
-- Project Evaluation (MP&F)	4	2011	4	2016
-- Prog Office Commitment (MP&F)	4	2011	4	2016
-- FY Plan Determined (MP&F)	4	2011	4	2016
-- Project Award (MP&F)	1	2011	2	2017
-- Ongoing Projects (MP&F)	1	2011	4	2017
Other	4	2011	4	2017
-- Annual Investment Guidance (Other)	4	2011	4	2016
-- Project Identification (Other)	4	2011	4	2016
-- Project Evaluation (Other)	4	2011	4	2016
-- Prog Office Commitment (Other)	4	2011	4	2016
-- FY Plan Determined (Other)	2	2011	4	2016
-- Project Award (Other)	1	2011	2	2017
-- Ongoing Projects (Other)	1	2011	4	2017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE							
1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>				PE 0708730N: <i>Maritime Tech (MARITECH)</i>							
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	-	5.000	5.000	-	5.000	5.000	5.000	5.000	-	0.000	25.000
2466: <i>NSRP ASE</i>	-	5.000	5.000	-	5.000	5.000	5.000	5.000	-	0.000	25.000

A. Mission Description and Budget Item Justification

The National Shipbuilding Research Program (NSRP) is an industry and enterprise wide research collaboration that seeks to reduce the Navy's shipbuilding and repair cost. The resulting technologies implemented in NSRP-ASE member shipyards, benefit both the shipyard and the US Navy.

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	-	5.000	5.000	-	5.000
Current President's Budget	-	5.000	5.000	-	5.000
Total Adjustments	-	-	-	-	-
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Rate/Misc Adjustments	-	-			

Change Summary Explanation

Technical: Not applicable.

Schedule: Not applicable.

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0708730N: <i>Maritime Tech (MARITECH)</i>	PROJECT 2466: <i>NSRP ASE</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
2466: <i>NSRP ASE</i>	-	5.000	5.000	-	5.000	5.000	5.000	5.000	-	0.000	25.000
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

A. Mission Description and Budget Item Justification

NSRP ASE is a collaboration of U.S. shipyards working with the Navy customer to reduce the cost of building and repairing naval ships and improving shipbuilding industry productivity through advanced technology and processes. NSRP ASE is an innovative and proven approach to public/private cooperation to manage cost-shared R&D based on a national consensus Strategic Investment Plan. The Plan targets potential industry-wide technology and process solutions which are vetted by industry experts and builds upon the progress made over the previous years. The collaboration's organizational structure promotes teaming of industry, government and academia to achieve the continuous product and process improvements necessary for improved Navy ship affordability. Solutions include both leverage of best commercial practices and creation of industry-wide initiatives with aggressive technology transfer to, and buy-in by, multiple U.S. shipyards. Navy PEOs (Ships, Subs and Carriers) and NAVSEA are directly involved in NSRP. The Plan calls for matching government and industry investments over several years

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

	FY 2011	FY 2012	FY 2013
Title: Technology Development Projects	-	5.000	5.000
Articles:		0	0
FY 2012 Plans:			
(1) Complete technology development projects in the four major initiative areas (Ship Design Technologies, Ship Production Technologies, Business Process and Information Technologies, and Regulatory Compliance and Technology Transfer/Workforce Development) that will be competitively selected by industry subject matter experts and Navy stakeholders during GFY11, targeting the following priorities in Naval shipbuilding and repair: (1) Improving Quality; (2) Reduction of Total Ownership Costs; and, (3) Increasing Energy Efficiency. It is anticipated that projects selected will be in the following areas:			
<ul style="list-style-type: none"> - Promotion of Modular Construction - Reduction of Re-work - Improving Production Engineering - Improving Specifications and Standards - Improving Manufacturing Processes - Improving Production Planning - Data Exchange - Improving Safety & Health / Reducing Environmental Impacts - Education and Training - Total Ownership Cost 			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Navy	DATE: February 2012
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APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0708730N: <i>Maritime Tech (MARITECH)</i>	PROJECT 2466: <i>NSRP ASE</i>
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2011	FY 2012	FY 2013
<p>(2) Continued technology transfer among the Navy, shipbuilding industry, academia, equipment and material suppliers and the R&D community</p> <p>FY 2013 Plans:</p> <p>(1) Complete technology development projects in the four major initiative areas (Ship Design and Material Technologies, Ship Production Technologies, Business Process and Information Systems, and Infrastructure and Support (Regulatory Compliance, Technology Transfer and Workforce Development)) that will be competitively selected by industry subject matter experts and Navy stakeholders during GFY12, targeting the following priorities in Naval shipbuilding and repair: (1) Improving Quality; (2) Reduction of Total Ownership Costs; and, (3) Increasing Energy Efficiency. It is anticipated that projects selected will continue to be focused in the following areas:</p> <ul style="list-style-type: none"> - Promotion of Modular Construction - Reduction of Re-work - Improving Production Engineering - Improving Specifications and Standards - Improving Manufacturing Processes - Improving Production Planning - Data Exchange - Improving Safety & Health / Reducing Environmental Impacts - Education and Training - Total Ownership Cost <p>(2) Continued technology transfer among the Navy, shipbuilding industry, academia, equipment and material suppliers and the R&D community</p>			
Accomplishments/Planned Programs Subtotals	-	5.000	5.000

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

N/A

D. Acquisition Strategy

R&D projects have been solicited and awarded by an industry collaboration represented by the Executive Control Board (ECB) of the National Shipbuilding Research Program (NSRP). The Navy has entered into an agreement with the industry collaboration using "other transaction" authority pursuant to 10 U.S.C. 2371.

E. Performance Metrics

Quarterly reports and reviews

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0708730N: <i>Maritime Tech (MARITECH)</i>	PROJECT 2466: <i>NSRP ASE</i>
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FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
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 2466	
Ship Collaborative Framework Technologies	[REDACTED]

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Navy **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 1319: <i>Research, Development, Test & Evaluation, Navy</i> BA 7: <i>Operational Systems Development</i>	R-1 ITEM NOMENCLATURE PE 0708730N: <i>Maritime Tech (MARITECH)</i>	PROJECT 2466: <i>NSRP ASE</i>
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Schedule Details

Events by Sub Project	Start		End	
	Quarter	Year	Quarter	Year
Proj 2466				
Ship Collaborative Framework Technologies	1	2012	4	2016